DOCUMENT RESUME

ED 131 560 EA 008 880

TITLE African Regional Seminar for Advanced Training In Systematic Curriculum Development and Evaluation. (Achimota, Ghana, 14 July--15 August 1975). Report.

INSTITUTION German Foundation for International Development, Bonn (West Germany).; Swedish International Development Authority (SIDA).; United Nations Educational, Scientific, and Cultural Organization, Paris (France). Div. of Structures and Content of Life-Long Education.; United Nations Educational, Scientific, and Cultural Organization, Paris (France). International Inst. for Educational Planning.

PUB DATE 75

NOTE 171p.

EDRS PRICE MF-$0.83 HC-$8.69 Plus Postage.

DESCRIPTORS Change Strategies; *Conference Reports; *Course Descriptions; Curriculum Design; *Curriculum Development; *Curriculum Evaluation; Elementary Secondary Education; *Institute Type Courses; Post Secondary Education; Regional Cooperation; Seminars

ABSTRACT

This report summarizes the African Regional Seminar for Advanced Training in Systematic Curriculum Development and Evaluation that was held at Achimota, Ghana, July 14-August 15 1975. Attending the seminar were 67 participants from 12 African countries, including Cameroon, Gambia, Ghana, Kenya, Liberia, Malawi, Nigeria, Sierra Leone, Swaziland, Tanzania, Uganda, and Zambia. Purpose of the seminar was to provide intensive training in systematic curriculum development and evaluation for curriculum specialists and to serve as a forum for the exchange of experiences in coping with the problems of curriculum development and evaluation. Individual chapters of the report focus in turn on aims of the seminar, selection of seminar participants and faculty, administration of the seminar, structure and content of the seminar, evaluation of the seminar, and proposed followup activities. In addition, the appendix contains a list of seminar participants and faculty, a detailed timetable for the seminar, and the texts of several addresses and papers presented at the seminar. (JG)

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REPORT

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AFRICAN REGIONAL SEMINAR FOR ADVANCED TRAINING IN SYSTEMATIC CURRICULUM DEVELOPMENT AND EVALUATION

ACHIMOTA, GHANA, 14 JULY-15 AUGUST 1975

International Institute for Educational Planning
(established within the framework of Unesco)

in co-operation with the International Curriculum Organization (ICO), the Swedish International Development Authority (SIDA), the German Foundation for International Development (DSE), the Unesco Division of Structures and Content of Life-long Education, and the Unesco Regional Office for Education in Africa

EA 008 880

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PREFACE

The African Regional Seminar for Advanced Training in Systematic Curriculum Development and Evaluation was held at Achimota, Ghana, from 14 July to 15 August 1975. The aim of the Seminar was to provide intensive training in systematic curriculum development and evaluation for curriculum specialists from some ten African countries. In addition, the Seminar served as a forum for the exchange of experience in coping with the many problems of curriculum development and evaluation in different countries. Each participating country had sent a team of curriculum workers to the Seminar so as to cover, between the members of the team, the various components of the overall curriculum planning task.

The African Regional Seminar was organized by the International Institute for Educational Planning (IIEP) in cooperation with the International Curriculum Organization (ICO), the Swedish International Development Authority (SIDA), the German Foundation for International Development (DSE), the Unesco Division of Structures and Content of Life-long Education and the Unesco Regional Office for Education in Africa (Dakar). It has been gratifying to see how the cooperation of these various agencies contributed to the success of the Seminar. The main burden for preparing the Seminar and for coordinating the many arrangements necessary for its successful launching was carried by T. Neville Postlethwaite of the IIEP with the assistance of Endre Ballér and Marie-Paule Boilève. I should like to pay tribute to the dedication and skill of this team.

The organizers and participants of the Seminar owe a special debt of gratitude to Mr A.F. Menka, Director of the Curriculum Research and Development Division of the Ghana Teaching Service and Director of the Seminar. Mr Menka was ably assisted by Mr John Oparehene who, as Seminar Administrator, assured the smooth running of the Seminar with unobtrusive efficiency.

I would like to express my special appreciation to the Government of Ghana and especially to the Commissioner for Education and Culture for having extended their hospitality and support to the Seminar. The fact that the Commissioner himself agreed to open the Seminar officially provided a strong indication of this support. I would also like to thank the Ghana Institute of Management and Public Administration (GIMPA) for allowing us to use its magnificent facilities at Greenhill.

I take this opportunity to express our great appreciation of the generous financial support of the Swedish International Development Authority (SIDA) and of the German Foundation for International Development (DSE), without which this Seminar could not have taken place.

Lastly, I would like to thank all the faculty and participants in the Seminar, who, by expertise, experience and good humour contributed so substantially to the success of this course.

Hans N. Weiler
Director, IIEP

REPORT OF THE AFRICAN REGIONAL SEMINAR FOR ADVANCED TRAINING IN SYSTEMATIC CURRICULUM DEVELOPMENT AND EVALUATION, ACHIMOTA, GHANA, 14 JULY - 15 AUGUST 1975

INTRODUCTION

The idea of strengthening international cooperation in the field of curriculum emerged in the second part of the sixties as a response to the increasing need for systematic curriculum change. The International Seminar for Advanced Training in Curriculum Development and Innovation held in Gränna, Sweden, in 1971 and attended by teams from 23 countries from all parts of the world, was a successful first effort on a major scale to implement this idea. The participants at the Gränna Seminar requested further regular cooperation and training facilities both at the regional and international level. So, after careful and extended planning and preparation, involving either directly or indirectly curriculum centres and institutions in some 40 countries, the International Curriculum Organization (ICO) was founded.

In early 1972, Drs Dave (Asia), Ballér (Europe), Valbuena Paz (Latin America) and Mrs Ogundipe (Africa) contacted by personal visit, correspondence or telephone various curriculum centres, units or projects in their regions. One of the aims of these contacts was to identify the training needs in the period 1972-1977 of curriculum personnel in the countries.

In the late summer of 1972 Professor Benjamin S. Bloom of the University of Chicago visited a series of curriculum centres in Asia, Africa and Latin America. Specifically in Africa he visited Ethiopia, Ghana and Kenya. It should perhaps be noted that about one year after the Gränna Seminar it was estimated that two thirds of the centres involved were working well and profiting at many levels from the Seminar.

At the same time, the International Institute for Educational Planning (IIEP) began to adopt, along the lines of the medium-term plan 1973-1978 developed by its Governing Board, a somewhat expanded notion of educational planning which included increased attention to the planning of the qualitative aspects and the content of education. In view of this increased interest on the part of the IIEP in matters of curriculum planning and related issues, an agreement was reached in 1974 which established strong links between ICO and the IIEP. This agreement stated that in view of their closely related interests, needs and respective policies, IIEP and ICO would develop a joint programme of research and training in the field of curriculum development, due attention being given to the complementariness of such a programme with other relevant programmes of Unesco.

In the mean time, Dr T. Neville Postlethwaite of the IIEP had corresponded with curriculum organizations in Ethiopia, the Gambia, Ghana, Kenya, Liberia, Nigeria, Sierra Leone, Tanzania and Zambia in order to identify more specifically these countries' training needs in curriculum planning. On the basis of this correspondence and the information provided by Professor Bloom and Mrs Ogundipe, a circular letter was sent out to a series of curriculum organizations in English-speaking Africa, south of the Sahara and north of the Zambesi, to ascertain the interest they had in teams from their curriculum centres attending a possible training seminar.

These were the major events leading up to the African Regional Seminar for Advanced Training in Systematic Curriculum Development and Evaluation which is hopefully the first in a series of regional seminars. Its aim was to provide high-level training for the staff of participating curriculum centres by reviewing the state of the art in curriculum development and evaluation, and instituting dialogue among curriculum workers in this area.

This international endeavour could not have taken shape without the fruitful cooperation and contribution of several international and national organizations and agencies. The following paragraphs give a brief description of each of these cooperating bodies.

INTERNATIONAL INSTITUTE FOR EDUCATIONAL PLANNING (IIEP)

The IIEP was established by Unesco in 1963 as an international centre of research and training with the aim of contributing knowledge and understanding to the improvement of educational planning in the world. The Institute's training programme for professional planning personnel in the field of education includes the regular annual programme of advanced training, specialized intensive courses and expert fellows programme, facilities for visiting fellows, seminars and workshops for Unesco experts.

The Institute's programme of research on problems of educational planning is geared to systematic inquiry into some of the major issues in educational development, including: education and employment, planning of education at the sub-national level, planning the development of education in rural areas, planning and evaluating the content and quality of education, and strategies to cope with disparities in educational systems.

In connection with its training and research programmes, the IIEP maintains an extensive programme of publications and teaching materials in the field of educational planning.

INTERNATIONAL CURRICULUM ORGANIZATION (ICO)

ICO was incorporated in 1973 as an international non-governmental, non-profit-making scientific organization. Its main aim is to promote and enhance international cooperation and progress in the field of systematic curriculum development. At present the members of ICO include curriculum centres from Belgium, Chile, Ghana, Israel, Kenya, South Korea, Malaysia, New Zealand, Scotland and Thailand, with centres from Finland and Hungary as observers. Several other centres have recently applied for membership.

ICO works in close cooperation with Unesco and IIEP. Its activities include:

1. Organization of training seminars for curriculum centres and experts. Following the African Regional Seminar, similar courses are being planned for Asia, the South Pacific area, Europe and Latin America.

2. Setting up task forces. The first such task force is engaged in writing a Handbook of Curriculum Evaluation (the first version of which was used as a working document during the African Regional Seminar) and preparations are being made for other projects, such as 'Curriculum development for first cycle education', 'The creation and organization of a curriculum centre', etc.

3. Establishing an efficient exchange network through newsletters, annual progress reports and a reference service.

UNESCO DIVISION OF STRUCTURES AND CONTENT OF LIFE-LONG EDUCATION

The Division of Structures and Content of Life-long Education 1) as one of its main responsibilities is engaged in deriving the implications for the educational content of educational policies and concepts aimed at ensuring democratization, both in terms of access to and success in education, the harmonious development of the personality, self-fulfilment of the individual

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1) Since the beginning of the preparations for the Seminar the 'Divisions' of Unesco have been fused into the 'Departments', and the work of the Division of Structures and Content of Life-long Education is being continued under the direction of Mr René Ochs within the Department of Curriculum, Structures and Methods of Education.

and his or her integration in society, and contribution to development in the perspective of life-long education. This involves, among other factors, the redistribution of content between the various components of the education system, in school and out of school. In this undertaking, the Unesco headquarters works in close association with the Unesco Institute for Education (Hamburg) and the Regional Offices for Education, as well as with the International Bureau of Education and the International Institute for Educational Planning.

In 1974 meetings of experts were organized on certain aspects of the restructuring of the education system (the basic cycle of education, secondary education and the world of work) as well as meetings on curriculum development and/or evaluation in Kuala Lumpur, Caracas, Dakar and Beirut.

In 1975-1976 two meetings of experts will be organized at the Unesco headquarters on the content of education (1975) and on the methodology of curriculum reform (1976) as well as a regional seminar on criteria for curriculum evaluation in Asia. Moreover, the Division is responsible for a number of operational projects in curriculum development centres of institutes of education assisted through UNDP funds or financing from other sources.

UNESCO REGIONAL OFFICE FOR EDUCATION IN AFRICA

The Unesco Regional Office for Education in Africa (Breda) was created in 1970 as a result of the decentralization policy of Unesco. The present functions of the Regional Office are the following:

- Training of educational planners and administrators (financed through fellowship awards) by intensive, advanced and national courses;
- Establishing full documentation and carrying out surveys on the educational situation in African countries;
- Assisting educational projects supported by Unesco, Unicef, UNDP and WFP in the region;
- Cooperating with other regional offices and institutions of the United Nations agencies in Africa in the field of education;
- Helping Member States with surveys on the quality, capacity and utilization of educational buildings;
- Collecting and disseminating technical documentation and information on educational subjects through the distribution of educational material, Unesco and Breda publications, the bulletin Eduafrica and replies to individual requests;

- Carrying out comparative studies at sub-regional levels with a view to adapting education better to the African socio-cultural environment, social changes and socio-economic realities, continuing studies and research on population dynamics, education and employment problems;
- Through its audio-visual demonstrating centre providing a continuous source of information, consultation and training facilities on the application of modern teaching methods and techniques.

The expansion of Breda's activities and the increase in staff called for an internal reorganization which resulted in the setting up of six sections within the Regional Office in 1973-1974. These are: Administrative Section; Educational Planning, Administration and Economics Section; Teacher-Training Educational Programmes and Cooperation Section; Educational Facilities Section; Information, Documentation and Publications Section; and Demonstration Centre.

Of the several courses organized by the Unesco Regional Office, special reference should be made to the seminar in Dakar (November 1974) on the Reform of the Primary School Curriculum in Africa for 13 English-speaking and French-speaking countries south of the Sahara. One hundred copies of the report of the seminar were made available to all the participants and observers at the African Regional Seminar and thus a natural link was established between the two events.

SWEDISH INTERNATIONAL DEVELOPMENT AUTHORITY (SIDA)

The Swedish International Development Authority, SIDA, is the central administrative agency responsible for the planning, implementation and evaluation of Swedish aid to developing countries, the volume and objectives being established by the Swedish Parliament and Government. The main part of the assistance is given within the frame of bilateral development cooperation programmes, agreed and annually reviewed in negotiations with Sweden's principal development partners. The choice of sectors as well as programmes and projects is guided by priorities established by the developing countries.

Education is one of the sectors of priority. Within the sector bilateral assistance is mainly given to vocational and technical training, to primary and secondary teacher training, to primary education and adult/non-formal education.

Support is also given to projects and programmes, including research in the field of education, courses and seminars, with regional or global effect, most often through the channel of, and in close cooperation with, international organizations, mainly United Nations agencies such as

Unesco and ILO, or international institutions such as IIEP.

During the current fiscal year (1974-1975) bilateral assistance in the field of education amounts to SKr. 136 million and assistance to programmes with regional or global effect to approximately SKr. 20 million.

GERMAN FOUNDATION FOR INTERNATIONAL DEVELOPMENT (DSE)

The DSE provides a platform for the international exchange of views on problems of the developing countries. It also conducts advanced training programmes for specialists and higher level personnel from developing countries. **Another important activity of the DSE is the preparation of German specialists for assignments in developing countries.**

Each year approximately 3,000 guests, of whom roughly 1,800 come from developing countries, participate in the many DSE events (conferences, symposiums, workshops, seminars, courses).

DSE works in close cooperation with international organizations, in particular the specialized agencies of the United Nations. Its staff numbers about 350. Its work is financed by federal funds and its 1975 budget totals DM 29 million.

The Education and Science Branch of the DSE is involved mainly in the following subject fields: educational planning, general school education and teacher training; teaching materials and educational technology; promotion of universities and the sciences; out-of-school education and adult education. Its aims are, among others, to make an effective contribution towards efforts to integrate formal and out-of-school education, elaborate and introduce work- and environment-oriented curricula and improve the structure of education systems with a view to regional manpower needs; to promote functional literacy and basic education for adults; to use mass media for educational purposes; to foster the production and distribution of cost-saving, modern and appropriate teaching materials, especially in the sphere of rural education.

CHAPTER I

AIMS OF THE SEMINAR

Unesco sponsored a meeting of experts on curriculum of general education in Moscow, USSR, in January 1968. The meeting was attended by 33 experts from 22 countries.

The major proposals for international and national action in the report of this meeting included the following:

1. National Centres for Curriculum Development and Research

The process of curriculum construction is a very complex one requiring a variety of experts to participate in the development of specifications, learning materials, evaluation procedures and educational research. The most effective curricula are now being developed by those nations fortunate enough to possess curriculum centres with appropriate teams of experts.

. It is recommended that Member States of Unesco be helped in the creation of national centres for curriculum development and research through initial financial support, consultants, training opportunities and dissemination of information. The major effort of Unesco should, however, be directed to relating the knowledge and experience available in some countries to the support of other countries in this work.

2. Exchange of Experience

The various procedures associated with curriculum development constitute an educational technology which is well known in theory, but less well exemplified in practice. The number of national centres engaging in curriculum development is, however, growing and it is the opinion of the meeting that current procedures could be refined and better practices realized, if there were an interchange of information about the techniques that have been evolved.

The meeting recommends for consideration by Unesco the problem of how the interchange of experience of curriculum development might be facilitated. In particular, the meeting invites Unesco to consider the possibility of bringing together for a training session of a month or more, followed by other meetings at regular intervals, national teams, the members of which would thereby get to know one another, and so establish a network of communication which would make knowledge available.

3. Assistance in Curriculum Development and Evaluation

It is recommended that frequent systematically organized meetings of curriculum experts be held to assist in the evaluation and development of curricula. Such meetings should be conducted at international, regional and national levels.

A curriculum is not static, either in its content or in its methods. It must be under continuous review and revision, preferably by teachers working with experts in the field. Curriculum reform commissions should be permanent bodies concerned also with the preparation of materials and retraining of teachers. Curriculum reviews should be systematically planned, rather than ad hoc. Further, as new methods and techniques are evolved for curriculum development, for evaluation and for learning and instruction, there must be machinery for disseminating knowledge about them between and within countries.

It is further recommended that Unesco assist:

- by organizing international and regional meetings of curriculum experts;
- by encouraging and aiding national authorities to develop their own procedures and programmes.

4. Training of Specialists in Curriculum Development

It is recommended that assistance be given to countries to establish or expand the systematic training of educational specialists in the field of curriculum development, and, when advisable, to assist groups of countries having similar problems in the organization of regional courses for this purpose.

Each country must organize its curriculum work along the lines it regards as most relevant for its special conditions. Some countries will have highly centralized curriculum centres while others will attempt to provide for decentralized curriculum work. Some will place their curriculum within the ministry of education; others will create national centres located in some relation to the ministry, the institutions of higher education and the public-supported schools; while others will regard curriculum work as a series of special contract projects to be supported by public and private funds.

However it is organized, each country will have to provide for four functions:

1. The Determination of the Specifications for the Curriculum

This will include the content and objectives of the curriculum. This function requires a series of value decisions based on available evidence in the country, studies made of specific social and educational needs in the nation, expert opinions, and a body of theory and research on learning. This is the most fundamental set of problems in curriculum development and each nation may learn from the experience of other nations with these problems.

2. The Development of Learning Material and Instructional Procedures

This function requires highly skilled workers who can create materials and procedures which will serve the functions specified for the curriculum. It also includes the trying out of the materials and procedures under appropriate conditions with students and teachers to find ways of improving them and to determine the limitations and advantages of each set of materials and techniques. Again, each country can profit from the experiences of others and each country may contribute materials and ideas to other countries. This stage in curriculum development constitutes a technology which can be shared by all and which can be improved in a systematic way from year to year.

3. The Evaluation of the Effectiveness of Learning Materials and Instructional Procedures

This function involves the careful use of evidence to determine the extent to which the curriculum has the intended effects on students. This stage in curriculum development includes the creation of appropriate evaluation techniques, the use of appropriate sampling procedures and research design, and the analysis of the evidence by appropriate statistical and data processing procedures. Of all the functions, this is one of the most highly developed international technologies which can be shared by countries possessing appropriately trained personnel.

4. The In-Service and Pre-Service Training of Teachers for Curriculum Changes

Each nation must find ways of bringing its teachers up-to-date on new subject matter, methods and ideas finally used in the new curriculum developments. While this is not properly a part of curriculum development, it is clear that new instructional material and instructional methods cannot be used in the schools until the teachers have been prepared for the changes. Here again each nation can profit from the experiences of other nations.

With these requirements in mind, it was agreed that the overall aims of the African Regional Seminar would be to review the state of the art in curriculum development and evaluation and to institute dialogue among curriculum workers at different levels and in different subjects in a school system. Furthermore, a working relationship should be created between subject matter specialists and evaluators. To this end, it was anticipated that practical work would be undertaken in the creation of small learning units. An important principle to be followed in this practical work would be the creation of a team, a group of persons representing different competencies who would pool abilities such as subject matter expertise, evaluation and measurement techniques, and skills in planning and implementation of curriculum projects. It was thought that a team so constituted would provide a good nucleus for curriculum work.

A general overview of the complexity of forces determining curriculum was obviously essential and it was agreed that experts in sociology, economics of education, etc., would be asked to contribute their views.

Three major outcomes of the programme were envisaged: learning of general principles in the various areas of curriculum development; practical work in a specific area; and an understanding of the problems, success and failures of curriculum work in many nations in order that the experience of each nation could provide one basis for a model for others. These outcomes are discussed in more detail below.

General Principles of Curriculum Development

(Morning course work attended by all participants)

It was hoped that all participants would learn:

1. The state of the art in curriculum theory
2. The many forces (social, political, economic) affecting curriculum development and the ways in which necessary experts can be identified and used in the work.
3. The uses and methods of evaluation of curriculum and how evaluation can be built into the curriculum development process.
4. How the software and hardware of educational technology (particularly psychological knowledge) can be used in curriculum development.
5. The ways in which teacher training (both pre-service and in-service) must be linked to on-going curriculum reform.

Specialist Practical Work

(As parallel afternoon seminars)

It was envisaged that subject matter groups or specialist groups would be formed to review their own subject matter or specialty in terms of the state of the art. Four subject areas were identified (from the correspondence and visits described above in the Introduction): Science, Mathematics, Social Studies and Language. In terms of the work being undertaken in curriculum centres, it seemed as though these four areas included the subjects where considerable work is being undertaken or planned in the mid-70's. Furthermore, it was considered imperative to involve two additional curriculum specialities: Curriculum Planning and Implementation, and Curriculum Evaluation and Research.

Each individual in a subject matter group was expected to review (with the rest of the group) the nature of the subject matter itself in terms of sequencing the subject throughout the school system and the attempt to create a small learning unit together with some sort of formative evaluation instrument in collaboration with the evaluation specialist from his own team.

The aim of the Seminar for specialists in Curriculum Planning and Implementation was to examine the various models which exist in various socio-economic-political contexts for the innovation, reform, evaluation and spreading of curricula throughout an entire school system. In particular emphasis was to be laid on how the curriculum revision cycle could be speeded up. The Evaluation group was to review the state of the art of curriculum evaluation, the use that can be made of existing survey data for feedback to curriculum planners and the relationship of evaluation of curriculum to educational research in general. In this connection the draft version of the 'Handbook of Curriculum Evaluation' prepared by IIEP and ICO with the assistance of the DSE proved most useful.

The members of each team were expected to prepare a paper on the implications for future curriculum work in their country in terms of what had been discussed at the Seminar. Teams could work as a unit to prepare interlocking papers confronting a major national problem or as individuals tackling an area of concern within their own fields in consultation with other members of the team to provide different expertise. It was hoped that these two activities - practical work within a subject area and team cooperation - would further the knowledge of each individual and also establish interaction and links between subject matter experts, evaluators, and curriculum planning and implementation leaders. Chapter IV gives detailed information on the content of the courses, seminars and papers.

Perspectives on Curriculum Work in Other African Nations

In each of the endeavours outlined above, it is clear that nations can learn from what is done in other nations and from the successes and failures of particular strategies already undertaken. In addition, the presence of teams from many countries would enable each team to gain perspective on its own work in comparison with work being done elsewhere. Each of the national teams would come from differing cultural contexts and each curriculum has to be appropriate and relevant to the particular cultural context.

Nations vary in their needs to teach values and attitudes deliberately in their school systems, and it was expected that the various ways this is undertaken in the various nations represented would prove of interest and practical value to all.

Some nations operate on an ad hoc basis for the reform of curriculum; a few have models of systematic continuous reform. All wish to institute flexible mechanisms which will allow an on-going and smooth up-dating of the curriculum. Here again the various experiences would distill and produce sound and strong models.

The fact that many nations have similar problems of curriculum development and evaluation whatever their social-political philosophy or state of economic development is of great importance. The recognition of such problems and the will to work together in solving them both regionally and internationally can add much to world understanding and the resolution of major problems in education and other areas. Education exists in every nation. The curriculum is the central component in all schooling. It was hoped that the Seminar would sow the seeds for overall reform in a series of nations and for regional cooperation in solving the many problems which ultimately affect human beings already born as well as those yet to come into this world.

The organizers of the Seminar were extremely conscious of the efforts to be made during the Seminar to discover the most appropriate strategies for following up the work begun by this regional seminar and how national and regional work could be fostered for the solutions of curriculum problems.

CHAPTER II

SELECTION OF PARTICIPANTS AND FACULTY

1. Participants

Following preliminary contacts with curriculum centres in the African region by T.N. Postlethwaite (IIEP), Mr A.F. Menka (Ghana) and Mr G. Oluoch (Kenya), an official letter of announcement of the proposed African Regional Seminar was sent out in October 1973 by Mr Raymond Poignant, at that time Director of the IIEP. This letter described briefly the aims of the Seminar, the proposed dates and possible venues, themes and methods of work. In particular it asked for nominations of teams of six persons (or at least four) from each country. No specific qualifications were given here for the selection of these participants, but it was stressed in later correspondence that they should be working in the field of curriculum and should have already acquired a certain experience in this domain.

The letter of announcement was sent to curriculum centres and ministries of education in the following countries: Ethiopia, Gambia, Ghana, Kenya, Liberia, Malawi, Nigeria, Sierra Leone, Tanzania, Uganda and Zambia. These countries had not been pre-selected as in the case of the Gränna Seminar, but formed a more or less homogeneous block south of the Sahara and north of the Zambesi. All countries contacted were English-speaking, since it was intended to hold the Seminar in that language, and since simultaneous interpretation had been precluded as too expensive. Replies were received eventually from all 12 countries, expressing their interest, agreeing with or suggesting changes in the proposed programme, and requesting more details, in particular concerning possible financial assistance in sending the teams to the Seminar. Ethiopia had originally expressed interest in participating in the Seminar, but decided in 1974 not to send a team to attend it. Early in 1975, on the other hand, a wish was expressed by Cameroon to be allowed to participate in the Seminar, and a team of six was accepted. One participant from Swaziland was accepted immediately before the Seminar. Thus the final number of participants from the 12 countries represented was as follows:

Cameroon	7	Nigeria	13
Gambia	4	Sierra Leone	4
Ghana	12	Swaziland	1
Kenya	6	Tanzania	5
Liberia	4	Uganda	6
Malawi	2	Zambia	3

Because of the special federal system of Nigeria, three teams of six persons each were given the opportunity to attend from Nigeria, but in the end 13 persons attended. In addition, the host country, Ghana, was also allowed to send two teams. The names and addresses of all participants at the Seminar are given in Appendix 1 to this report.

2. Faculty

Once the predominant interests and strengths of the participants were known, it was possible to proceed with the selection of an appropriate faculty. In order to secure as wide a choice as possible of prospective members of the faculty, nominations were invited from many sources: from the curriculum centres and ministries of the countries involved, from the Unesco Regional Office in Dakar; from Unesco headquarters, and from many curriculum experts of international repute. In all, some 90 nominations were received and a letter was subsequently sent to all those nominated to request their curriculum vitae and their confirmation of their willingness, if invited, to take part in the African Regional Seminar. Positive replies were received from the majority of those thus circulated.

A meeting of the Planning Committee of the Seminar was held in January 1975 in Accra, to which were invited those experts who had been suggested as course and seminar leaders. Those attending the planning meeting were:

From Africa

A.M.K. Bagunywa	(Uganda)
W. Blege	(Ghana)
A.F. Menka	(Ghana)
E.M. Mugiri	(Kenya)
R.O. Ohuche	(Liberia)
E.A. Yoloye	(Nigeria)

From Cooperating Agencies

E. Ballér	(IIEP Consultant)
M. Bauer	(German Foundation for International Development)
B.S. Bloom	(ICO)
A.D. Mengot	(Unesco Regional Office for Education in Africa)
R. Ochs	(Unesco)
T.N. Postlethwaite	(IIEP)

The meeting considered all the curriculum vitae which had been received and made its selection according to the appropriateness of the experience and qualifications of the proposed faculty members, to their competence in different aspects of the overall subject matter in question, and to their knowledge of different approaches to curriculum development in it. One major stipulation was that as high a proportion of the faculty as possible should come from the African region itself, since it was considered of prime importance that the members of the faculty should have a wide experience of the African situation. The German Foundation for International Development requested that one member of the German Foundation and one other German participate in the teaching. In fact the final distribution of faculty was as follows:

	African	Non-African	Cooperating Agencies' Personnel
Course and seminar leaders	7	1 (USA)	1 (IIEP)
Lecturers and consultants	13	3 (FRG, USA)	9 (DSE, IIEP, Unesco, Unesco Institute for Education Hamburg)

As it turned out, all those contacted, with one exception, were able to come to the Seminar.

Appendix 1 lists the names and addresses and specialty of faculty and Chapter IV gives background details according to the courses and seminars in which each faculty member was involved.

3. Personnel of Unesco and other agencies and observers

The German Foundation for International Development, one of the agencies which funded the Seminar, was represented by M. Bauer, who contributed to the curriculum evaluation courses. The Unesco Regional Office for Education in Africa (Dakar) sent Chief A.D. Mengot and P. Nalletamby as its representatives. Messrs H. Dieuzeide and R. Ochs attended the Seminar on behalf of the Unesco Secretariat in Paris and Dr R.H. Dave came from the Unesco Institute for Education in Hamburg. The International Institute for Educational Planning was represented by its Director, Dr H.N. Weiler, Dr E. Baller (IIEP Consultant) and by Dr T.N. Postlethwaite, who had organized the African Regional Seminar.

Observers at the Seminar were Miss Asiah binti Abu Samah, Director of the Curriculum Development Centre, Kuala Lumpur, who has been requested by IIEP-ICO to act as Director of the Asian Regional Seminar for Advanced Training in Systematic Curriculum Development and Evaluation tentatively scheduled for 1977; Drs D.O. Kolawole and E.C. Onifade of Nigeria (sponsored by Unicef). Further to this, **Mr Rolf Malmberg** (Consultant to SIDA), Miss Uta Niemann and Mr von Schott (German Ministry of Economic Cooperation) and Mr Derek Beard (British Council) attended for various periods of time during the Seminar.

The names and addresses of cooperating agencies and observers are given in Appendix 1.

CHAPTER III

ADMINISTRATION

No seminar involving so many people from so many countries is easy to organise. The following is a brief account of several of the administrative aspects of the Seminar.

Funding

The budget for the Seminar covered cost of travel to and from Accra for participants, board and room at GIMPA, faculty cost and travel expenses, materials and administrative costs.

From the outset it was agreed that national curriculum centres or their governments would make an effort to cover the expenses of at least some members of their teams wherever possible. In the case of Nigeria it was agreed that IIEP-ICO would pay for the first two teams and the Nigerian authorities would assume responsibility for the expenses of the third team. It was also agreed that the Seminar budget would cover only the participants' room and board on the GIMPA campus.

Negotiations with the Swedish International Development Authority (SIDA) and the German Foundation for International Development (DSE) resulted in the willingness of these two agencies to provide funds to cover the budget of the Seminar.

Organization and Administration - Advance Arrangements

The IIEP under its Director, Dr H.N. Weiler, was responsible for organizing and arranging the Seminar. The overall planning and administration of the Seminar was under the direction of Dr T. Neville Postlethwaite of the IIEP, but many other persons were involved. Dr E. Ballér of the Hungarian Ministry of Education (who had been the leader of the Hungarian National Team at the Gränna Seminar) was contracted as a part-time consultant by the IIEP and apart from attending the planning meeting and the Seminar itself worked in Paris for some seven weeks. The library staff of the IIEP (in particular Mrs J. Schwab and Miss F. Ruelle) did most of the ordering of the books. The administration section of the IIEP (in particular Mr C. Berkowitch, Dr H. Eisele and Mrs Lipinsky) dealt with travel arrangements, contracts and payments. Finally, the brunt of much of the detailed planning and correspondence fell to Mrs Marie-Paule Boilève, whose dedication and meticulousness cannot be praised enough.

Mrs Sheila Haggis and Mr René Ochs of Unesco helped advise on and procure books.

The Unesco Regional Office for Education in Africa collected up-to-date information through correspondence and questionnaires from the participating countries in Eastern Africa, while in West Africa both the Director of the Regional Office, Mr Bakary Kamian, and the Deputy Director, Chief A.D. Mengot, visited the following countries and discussed with officials of the Ministry of Education and directors of curriculum development centres the major issues and problems of educational and curriculum development in their countries: The Gambia (Mr B. Kamian); Cameroon, Congo, Ghana, Liberia, Nigeria, Sierra Leone (Dr Mengot). The UNDP/Unesco projects on the training of rural teachers and reform of the primary schools in Bunumbu (Sierra Leone), Kakata (Liberia) and IPAR (Yaounde), IPAR Buea (in the Republic of Cameroon) were also visited to ascertain the impact on the reform of school curricula.

In June 1975 a pre-seminar booklet was issued giving information on the Seminar, faculty and participants.

Ghana, the CDRU and GIMPA

Two possible countries were envisaged for the Seminar venue. These were Ghana and Kenya, since these two countries had curriculum centres which were members of the International Curriculum Organization (ICO). Although both **were interested in hosting the Seminar, in the end an official invitation was forthcoming only from Ghana. Since Mr Albert F. Menka is the Director of the Ghana Curriculum Development and Research Unit (CDRU), he was asked to become the Director of the Seminar.**

The planning meeting was held in January 1975 at the Ghana CDRU. Mr Menka had previously examined several possible sites for the Seminar. Selected members of the Planning Committee visited the two most favourable sites suggested by Mr Menka. GIMPA was ideal from several points of view. It is a self-contained campus with 82 single rooms, a large dining hall, an auditorium, seven seminar rooms, several lounges and a typing pool room. Nearby there is a Ford Foundation Guest House on the University of Ghana, Legon, campus where extra persons could be housed. The campus is about eight miles from down town Accra. GIMPA also has buses which it is possible to rent for groups to go down town. The GIMPA authorities also gave a favourable price for board and lodging.

It was possible to arrange the accommodation such that team members were housed in groups, thus enabling them to meet easily as teams each day to discuss what they had learned and what the implications were for improving curriculum development in their own centres.

Each seminar group had a seminar room and the seventh seminar room was transformed into a general library.

The Ghana CDRU organized all local transportation, meeting and delivering all persons at the airport upon arrival and departure. Furthermore, extra transportation for persons to visit embassies and the UNDP were also arranged by them. They provided a secretariat for the course and, in particular, Mr John Oparehene, an excellent on-site administrator. They arranged for a xerox machine to be installed at GIMPA and lent many CDRU library books to the Seminar library as well as a librarian to look after the Seminar library full-time. Finally, they organized all social activities.

Administration of the Seminar itself

Accommodation

All team members and several faculty members were housed at GIMPA. During the first week some observers had to be housed in chalets some seven miles from the campus, but from the second week on all could be housed at either GIMPA or the Ford Foundation building. The accommodation proved to be excellent and the food adequate. The service from both porters and dining room personnel was first class.

Books, Library and Secretarial Services

Each participant received a set of eight general books. Each seminar leader had ordered sets of books for his seminar group. In each case every member of a seminar received a set of books, but each seminar also had its own library from which seminar members could borrow. At the end of the Seminar the seminar leaders distributed the books equitably to participating curriculum centres. There was also a general library manned by the librarian of the Ghana CDRU. These books were also distributed to curriculum centres at the end of the Seminar.

A typing pool was established by the CDRU at GIMPA where weekly timetables, newsletters, course and seminar outlines and lectures, as well as individual and team papers were typed and duplicated. John Oparehene was the coordinator of this work.

Each week John Oparehene put up large sheets of paper (one for each faculty member) outside the main lecture hall where individuals or teams could sign up for consultancy with faculty members.

Special Events, Social Activities

Several special events were organized. On the second evening of the Seminar, Mr Hauptmann, Chargé d'Affaires of the Federal Republic of Germany, gave a reception at his home for all members of the Seminar.

On the first Saturday of the course there was a film show which was meant to introduce participants to cultural life in Ghana. The titles of the films were, "Panoply of Ghana", "Ghanaian Children at Play", and "One Nation, One People, One Destiny" - all films produced by the Ghana Film Industry Corporation.

On the Friday evening of the second week, the faculty threw a dance party for the participants. Everybody enjoyed the get-together and participants were very glad when faculty members like Professor Tyler danced to some high-life tunes. The following evening the Ghana Dance Ensemble of the Institute for African Studies, Legon, presented a programme of dances by flood-light on one of the GIMPA lawns. One of the dances required audience participation and much hilarity ensued!

The following Saturday, 2 August, an excursion was organized which took participants to Akosombo, through Tema and other places of interest on the Tema-Akosombo road. The return journey went through Akropong, Aburi Botanical Gardens and the Peduase Lodge. The highlights of the excursion were visits to the Adomi Bridge and the Akosombo Hydro-Electric Power Station.

On 9 August there was a film show of "No Tears for Ananse", a production of the Ghana Film Industry Corporation. It showed an acted form of one of the Ananse stories, which depicted the shrewd and cunning Spider-Man.

During the last two weeks of the Seminar, the Cameroonian team had a display of materials concerning school reform in Cameroon. These materials included information on the activities of IPAR Buea, photographs related to experimental and survey work carried out by IPAR Buea, conditions and practical work in schools, books for teachers on various subjects, as well as charts on educational research outlines. The "Cameroon Corner" was received with great interest by the participants and contributed to the practical aspect of the Seminar.

On the last Thursday of the Seminar, 14 August, Ghana's Commissioner for Education and Culture invited the participants to a cocktail party held at CIMPA to round off the Seminar.

Management and Feedback

However good the planning of a seminar, last minute adjustments must be made. During the first week, regular staff meetings were held, and thereafter one or two meetings took place per week. A small faculty/participant committee was formed during the first week and after two initial meetings this met as requested by the participants. Each day the Director of the Seminar met with the team leaders, who were the members of his seminar on Curriculum Planning and Implementation. All of these mechanisms allowed for informal feedback from the participants to the organizers such that timetables could be altered, extra lectures inserted into the programme, etc. The timing and the length of the seminars was altered, extra lectures were inserted, special meetings of teams were scheduled and many minor details were catered for in this way. Further to this, questionnaires, developed by the Evaluation seminar under the guidance of Professor E.A. Yoloye, were administered at the end of the first, second and last weeks (see Chapter V).

CHAPTER IV

STRUCTURE AND CONTENT OF THE SEMINAR

The opening ceremony was held of 14 July. Speeches were made by Seminar Director A.F. Menka; Mr Hauptmann, Chargé d'Affaires of the Federal Republic of Germany (on behalf of the German Foundation for International Development); Dr H.N. Weiler, Director of IIEP. The highlight of the ceremony was the speech of the Commissioner for Education and Culture who formally declared the Seminar open. The text of his speech is given in Appendix 2.

One third of the total time at the Seminar (60% of the scheduled instructional time) was devoted to four courses which all participants were expected to attend. One pair of courses - Curriculum Theory (Course A), followed by Evaluation Methods (Course B) - was offered from 8.30 to 10.00 a.m. on each of the working days throughout the Seminar. These two courses were planned in close relation to each other so that they virtually related to different phases of the same subject.

Three other courses were also offered in the mornings. The course on Individual and Social Change (Course C) met from 10.30 to 12.00 each morning for the first two weeks, Teacher Training (Course D) in the third week, followed by Educational Technology (Course E) during the last two weeks. These three courses were primarily lecture courses offered by a number of short-term faculty members and coordinated by a chairman of each course. At least one half of the time of each course session was devoted to questions raised by the participants. Since these three courses were intended to provide a map of the major ideas and methods in each of a series of topics, they were designed to raise major issues, new ways of viewing educational and social phenomena, and to suggest how experts in each country might work closely with curriculum groups to help them in attacking some of the most basic problems in the field of education and curriculum. While Courses A and B were intended to be immediately relevant to the curriculum work of each country, Courses C, D and E were believed to be especially relevant in considering some of the long-term educational problems in each national context.

Four special lectures were given in the course of the Seminar. After the opening ceremony, Dr A.D. Mengot gave an overview of the problems and issues facing African countries in curriculum development, based on data specially collected for the Seminar. (Its abridged version can be found in Appendix 3.) Dr A. Afolayan presented two lectures on Language. (The necessity of considering Language in Curriculum Planning, Development and Implementation; Language Policy.) Finally, Dr A.D. Mengot had a talk about Education and Social Change. The end of Seminar questionnaire proved convincingly that the participants almost unanimously greatly appreciated these lectures and found the topics valuable for their countries and curriculum centres.

For each of the courses a set of books and readings was made available to the participants. Some of these readings were intended to serve as a background for the lectures. Other materials were intended for later reading and reflection since they put the content of the course sessions in a more intensive way, or they were to be used for later reference when the participants needed these ideas during the Seminar, or after they returned to their work in their own curriculum centres.

Since most of the faculty members attended the courses, there was frequent cross-reference from one of the courses to the others and a topic or idea raised in one course session was referred to and elaborated upon by another faculty member at a different session.

Another third of the time at the Seminar (40% of the scheduled instructional time) was devoted to the seminars offered for the different areas of specialization (Science, Mathematics, Social Studies, Language, Curriculum Evaluation and Research, and Curriculum Planning and Implementation). Each of the seminars, which were limited to 15 participants each, was offered from 2.00 to 4.00 in the afternoon of each working day. Each of these seminars was organized by the faculty chairman of the seminar, and they were responsive to the special problems of each of the participants or of sub-groups of participants. Each chairman of each seminar had three to five additional faculty members who spent varying amounts of time with the group and, ideally, these additional faculty members brought different approaches to the area of specialization.

The conduct of these seminars was determined by the faculty and the participants, but it was evident that most of the seminars shifted from the presentation of major ideas and methods of the field by both faculty and participants to intensive consideration of the merits of different approaches, to the preparation by individuals (and sub-groups) of specific plans and material for use in their own curriculum centres.

Since most of the seminar faculty members attended the morning lectures and workshops, there was frequent cross-reference to ideas raised in these sessions to clarify particular points or to provide a common base for the further development of a difficult idea or procedure. It was evident that the morning sessions provided a common language and set of experiences for the more intensive work in most of the seminars.

Each of the participants was expected to prepare a paper in which he related the work of the courses and especially of his seminar to the special problems of his own curriculum centre and to the particular context provided by his own national situation. Many of these papers were discussed at the seminars and almost all were discussed with faculty members of the seminar at various stages in their preparation. In most cases, each paper was discussed with the national team who were especially concerned with how each paper related to the other papers prepared by members of the team and the extent to which each paper took into consideration the special circumstances in the national situation. On the last day of the Seminar the main issues of the team papers and follow-up work were presented to all participants in the auditorium by the team leaders. This offered an excellent overview of the ideas learned and developed during the Seminar.

Almost a third of the time at the Seminar was devoted to the activities of each team. A formal amount of time was scheduled for this from 4.30 to 6.00 each day, but the living conditions at GIMPA were also designed to facilitate meetings of each team for professional as well as social purposes. In the first weeks, it was apparent that much of the team activity (including two or more members of the team) was primarily for the purpose of clarifying the ideas in the morning courses. As the programme developed, most of the team meetings were concerned with the relevance and application of the ideas considered at the Seminar for the curriculum work in the team's national situation. In most cases, the team discussed the proposed outline of the papers to be prepared by team members, and the actual text of the papers was discussed by some or all of the members at different stages in the preparation. Increasingly, the team became a major force in the constant effort to select and relate new ideas to the curriculum problems in the nation.

The participants - especially in the seminars - did much to help each other as the need arose. While the team became a stronger group, it is also clear that the subject or specialist group also became a group of colleagues who supported each other in many ways.

Finally, the faculty made themselves available for consultation on individual and team matters. The ease with which one could sign up for a faculty consultation made it possible for most of the participants to have repeated meetings with individual faculty members as the interest or need arose.

The closing ceremony of the Seminar took place on 15 August. Speeches were made on behalf of the participants (Dr Harawa), the faculty (Professor Yoloye), the Unesco Regional Office for Education in Africa (Dr Nalletamby), the International Curriculum Organization (Professor Bloom), the German Foundation for International Development (M. Bauer). Dr Johnson, the secretary of the committee elected and set up by the participants to work out proposals for follow-up activities, presented a recommendation for an African Curriculum Organization (see Chapter VI). Seminar certificates were presented by Mrs N.O. Anim and the African Regional Seminar was formally declared closed by Professor N.O. Anim, Director-General of the Ghana Teaching Service. (The text of this closing speech is given in Appendix 4.)

The following is a synopsis of the content of each course and seminar.

COURSE A:
CURRICULUM PLANNING AND DEVELOPMENT

The course on Curriculum Planning and Development (Course A) lasted from 15 to 30 July, during which period the following topics were dealt with:

Topic	Lecturer
What educational objectives should our schools pursue? (I)	A.F. Menka
What educational objectives should our schools pursue? (II)	R.W. Tyler
Educational objectives and life-long education	R.H. Dave
What educational experiences should be provided? (I and II)	R.W. Tyler
How can educational experiences be organized? (I and II)	R.W. Tyler
How can we determine that the educational objectives set are being attained?	R.W. Tyler
Curriculum reform in Hungary: A case study	E. Ballér

Topic (contd.)	Lecturer
Implementation of a new curriculum: Examples from the Ghana situation	A.F. Menka
Curriculum planning and teacher education with reference to cognitive development	R.O. Ohuche
Curriculum planning and teacher education with special reference to the teaching of mathematics	G.A. Williams

As can be seen from the topics listed above, Course A was based on the four important questions of:

i). What educational objectives should we pursue?
ii). What learning experiences should we offer?
iii). How do we organize the learning experiences selected?
iv). How do we ascertain the effectives of the curricula we offer?

The content of the lectures given to cover these four questions, as well as the discussions following each of the lectures is given in Appendix 5.

In addition to these basic questions, time was also devoted to the implications of life-long education and implementation of new curricula. Implementation of new curricula cannot but depend to a considerable extent on teachers in the field. The last three talks on this course therefore provided a natural link between the courses on Curriculum Planning and Development (Course A) and Teacher Training (Course D). The talk on the Hungarian case study summarized the main issues by demonstrating a large-scale on-going curriculum reform.

Implementation of New Curricula and Teacher Education

The talk on 'Implementation of New Curricula' reviewed briefly the model of determining educational objectives, leading on to selection and organization of suitable learning experiences, and evaluation of the curriculum. This talk and the next two after it provided a link between Course A on Curriculum Planning and Development and Course D on Teacher Training. For a successful implementation, all supervisory staff like inspectors and subject advisers have to be involved. Classroom teachers will need to undergo in-service training based on the new curriculum to be implemented. It is also necessary for the new curriculum to become part of the pre-service course of those who are now in training so that they can successfully teach the new programmes when they pass out as trained teachers. The examining bodies should also be made to accept the new curriculum to enable them to base their examination on the new content. Two examples of mathematics and environmental studies programmes being implemented in Ghana were cited to illustrate the steps necessary in curriculum implementation.

In dealing with the topic 'Curriculum Planning and Teacher Education with Special Reference to Pedagogy', reference was made to factors that influence and shape change. Curriculum change should promote intellectual viability if general development is to be facilitated. Reference was made to the 1969 Nigerian Education Reform Committee and the objectives identified by it. In teacher education programmes, methods should not be divorced from subject matter. The methods advocated by trainers of teachers should be the methods employed by them in their own teaching. This means that training college syllabuses should be very relevant to teacher education programmes. Citing examples from mathematics the speaker illustrated the importance of stressing the need to teach the structure of subjects to students in training. When students grasp the basic structure of a subject, e.g. mathematics, the subject becomes more meaningful. A model showing a structural approach in modern mathematics was used to explain the point made. The discussion that followed touched on the importance of encouraging teachers to continue to improve themselves.

The talk on 'Curriculum Planning and Teacher Education with Special Reference to the Development of Concepts' expressed the view that, on the whole, African teacher education programmes have tended to let the more easily tractable issue of content of subject matter overshadow the equally important but less well defined nature of how a learner learns a subject. A model using a learner with entry behaviour into a "black box" and the same learner with exit behaviour out of the black box was used to emphasize the importance of knowing the entry characteristics of each learner. Piaget's theory of intellectual development, with necessary modifications which it is hoped the study of African learners in different learning environments will occasion, was seen as offering the best theoretical model at present for gaining insights into the thought processes of African children and adolescents. The sequence of intellectual development as postulated by Piaget and confirmed by several studies in African countries was discussed beiefly.

The Place of Language in Curriculum Planning and Development

As mentioned above, two talks on language were given to show the importance of language in curriculum work. The first was devoted to an examination of the necessity for considering language in curriculum planning, development and evaluation. The topic was discussed with reference to some African languages and English.

The second session was devoted to a consideration of what a language policy is, the principles underlying a language policy and recommendations on the sort of language educational policy is desirable for developing countries in Africa. The discussion was illustrated with learning units in Animal Husbandry, Social Studies, Domestic Science, Mathematics and Language. It was argued that for the African child in his African cultural setting, the use of his mother tongue as the medium of learning guarantees the type of success desired. The use of activity and discovery methods, the democratization of education, literacy and provision of opportunities for life-long education can all be achieved only when the child learns in his mother tongue.

Faculty

A.F. Menka, Course Coordinator, Director, Curriculum Division, Ghana Teaching Service, Accra, Ghana

Adebisi Afolayan, Senior Lecturer, University of Ife, Ile-Ife, Nigeria

E. Ballér, Principal Education Officer, Ministry of Education, Budapest, Hungary

R.H. Dave, Technical Director, Unesco Institute for Education, Hamburg, FRG

R.O. Ohuche, Associate Professor, University of Liberia, Monrovia, Liberia

R.W. Tyler, Formerly Director of the Center for Advanced Study in the Behavioral Sciences, Stanford, California, USA

G.A. Williams, Associate Professor, University of Lagos, Lagos, Nigeria

Readings and List of Books for Course A

Bruner, J.S., *The Process of Education*, New York: Harvard University Press, 1960

Eating, *Physical Education and Sport*

Gagne, *The Conditions of Learning*, 2 vols., New York: Holt, Rinehart & Winston, 1970

Gilbert, P.G.S. and Lovegrove, M.N., *Education in Africa*, London: Heinemann

Husén, T., Talent, *Opportunity and Career: A Twenty-Six Year Follow-Up of 1500 Individuals*, Stockholm: Almqvist & Wiksell, 1969

Kerr, J.F., *Changing the Curriculum*, London: University of London Press, 1968

Mager, R.F., *Preparing Instructional Objectives*, Palo Alto, Cal.: Fearon, 1962

Piaget, J., *The Science of Education and the Psychology of the Child*, London: Longman, 1971

Postlethwaite, T.N. (Ed.), *Comparative Education Review*, Vol. 18, No. 2, June 1975

Richmond, W.K., The School Curriculum, London: Methuen, 1971

Travers, M.W., Second Handbook of Research on Teaching, Chicago: Rand McNally & Co., 1973

Tyler, R.W., Basic Principles of Curriculum and Instruction, Chicago: University of Chicago Press, 1969

University of Dar-es-Salaam, Studies in Curriculum, No. 2

Walton, J., Curriculum Organization and Design, London: Ward Lock, 1971

COURSE B:
CURRICULUM EVALUATION

The course on Curriculum Evaluation focussed on general principles of curriculum evaluation. The lectures fell into three broad categories. The first dealt with general principles and models of curriculum evaluation, and emphasized appropriate evaluation procedures at the critical stages of curriculum development, namely, (i) the planning stage; (ii) the small-scale try-out stage; (iii) the large-scale try-out stage; (iv) the implementation stage; and (v) the quality control stage. The second category dealt with the major techniques employed in curriculum evaluation, namely, (i) the use of expert judgement; (ii) observational techniques; and (iii) the use of tests and scales. The third category consisted of the presentation of case studies in curriculum evaluation which served to illustrate points of experimental design, sampling, data collection and data analysis. Two case studies were presented, namely, (i) the Ife six-year primary project (Nigeria) - a study in the use of mother tongue as a medium of instruction, which led to the preparation of new curriculum materials for the primary school, and (ii) the IPAR Buea study in the Cameroon.

These case studies, besides illustrating the various principles and procedures in action, also brought out vividly the practical problems often run into in educational research.

In addition to the formal lectures, arrangements were also made to take interested groups of participants to the Legon computing centre where they were given practical experience of simple data processing using the card punch and card sorting machines.

The first two categories of lectures were based closely on the trial edition of the IIEP-ICO Handbook of Curriculum Evaluation, which was in fact being tried out in a teaching situation for the first time. Participants were asked to read the relevant chapters in advance of the lectures and were then requested to record their comments on each chapter in a questionnaire booklet. The questionnaire asked four simple questions on each chapter of the text, namely, (i) what concepts were not sufficiently clearly explained; (ii) what important concepts were not covered; (iii) what examples from the participant's own curriculum centres or work illustrated the principles or techniques presented; and (iv) in what way may the chapter be improved? Completed questionnaires were collected at the end of the course, for use at the editorial meeting on the Handbook fixed for September 1975 in Bonn.

In general the lectures generated a lot of enthusiastic discussion and opened up a variety of new dimensions in curriculum development and evaluation for the participants. In many of the lectures, participants were made to go through actual practical exercises and the members of the evaluation seminar acted as consultants to their country teams in these exercises.

Faculty

E.A. Yoloye, Course Coordinator, Professor of Education and Director, International Centre for Educational Evaluation, University of Ibadan, Ibadan, Nigeria

M. Bauer, Head of the Educational Planning Section, Education and Science Branch, German Foundation for International Development, FRG

B.S. Bloom, Professor of Education, University of Chicago, Chicago, USA

T.N. Postlethwaite, Associate Staff Member, IIEP (Unesco), Paris, France

Readings and List of Books for Course B

Bloom, B.S. et al., Handbook on Formative and Summative Evaluation of Student Learning, New York: McGraw-Hill, 1971

ICO, Handbook of Curriculum Evaluation, IIEP, 1975. Trial edition.

Unesco/IBE, Educational Documentation and Information, No. 184

COURSE C:
SOCIAL AND INDIVIDUAL CHANGE

A review was undertaken of the major economic, social, cultural and individual factors to be taken into account when developing both the content of the curriculum and the proposed modes of learning (a major task of curriculum centres).

Four lectures were given in the first week and four in the second. In the first week the lectures given were:

Topic	Lecturer
The social and cultural conditions in which education takes place and their implications for curriculum development	R.H. Dave
The politics of curriculum development: setting and implementing educational objectives in the real world	H.N. Weiler
Social and individual change in curriculum development: psycho-social political considerations	I.M. Omari
School-based education: help or hindrance for individual, societal and international change	C. Wulf

A distinction was made between education and school education which it was felt all curriculum developers should bear in mind since the developers must make a very careful selection of those things that are best taught in school. The structural and process variables of the home and community were discussed and contrasted with the school. Stress was placed on structuring the latent curriculum particularly as far as learned roles in school may conflict with those out of school. It was pointed out that one very important mode of learning outside the school is inter-personal learning and that it is rarely used within the school. It was suggested that a systematic analysis of school-based and non-school-based learning be undertaken along a number of dimensions such as learning styles, content, learning processes, learning outcomes, etc., in order to derive concrete guidelines for curriculum development. Particular stress was laid on the curriculum dealing more than hithertofore on helping students to integrate into the existing society and its social system. In this context the notions of participation, independence and equality of children and their implications for curriculum were considered.

The roles of the curriculum development personnel were discussed under four different conditions - general educational objectives being stated from above, no objectives being stated, uncertain objectives and conflicting objectives, and the types of links which curriculum development units or centres could have to the political forces in a country. Much discussion centred on the political role of the head of such a centre.

Two functions of education were examined: that of the preservation of cultural heritage, skills and attitudes, etc., and that, more applicable to African countries it was suggested, of modifying and shaping the culture in which it functions. The formulation of general national educational objectives was discussed and the Tanzanian case given (see Omari, 1975, pp. 7-8).

Finally, discussion focussed on the ways in which information might be collected about the learners themselves, the contemporary life outside school, and the subject itself (from subject matter experts). There is a paucity of such 'research' information in Africa and several examples were cited of poor (and misleading) research conducted by non-Africans in Africa.

A plea was made for more relevant research to be conducted in Africa by Africans and for curriculum development centres to suggest research that will be useful to them. Several criticisms were made of the 'academic' research conducted in universities. It was pointed out that the curriculum centres themselves conduct evaluation exercises, many of which are of great interest in terms of their conceptualization, methodology and results, but that these are usually internal documents and are never communicated to other curriculum centres in neighbouring countries. It was suggested that the Unesco Regional Office for Education in Africa might consider the possibility of systematically collecting and publishing good studies from the African curriculum centres and of coordinating visits of curriculum workers to other curriculum centres where good work is being conducted in their specialty.

In the second week the lectures given were:

Topic	Lecturer
a). The identification of the knowledge, skills and values required by the economic roles of school leavers	
b). Educational surveys of student achievement: their utility to curriculum developers	T.N. Postlethwaite
The economic value of education	M. Blaug
Rural education for rural development	M. Blaug
The role of examinations	M. Blaug

As one input into curriculum development to help identify the objectives of education to be learned, it was suggested that surveys of 'receiving agencies' be conducted in order to discover the types and amounts of knowledge, skills and values they require (and are likely to require over several years), the type and amount the receiving agencies are in fact receiving and then estimate the consensus. The major drop-out points in the educational system and the major receiving agencies will vary from country to country and it is for each curriculum centre to identify these and conduct appropriate studies for collecting information on the knowledge, skills and values required to be able to feed this to the decision making process on objectives.

Educational surveys are useful devices for collecting information on both the achievement of pupils (to discover the strong and weak points in mastering the educational objectives on the curriculum) and the in- and out-of-school factors which affect such achievement. As illustrations the studies of the International Association for the Evaluation of Educational Achievement (IEA) and the National Assessment of Educational Progress were cited.

Given that more education is consistently associated with higher earnings, four explanations were suggested as to why this might be so (none of which can fully stand on its own). The 'economic' explanation is that certain educated individuals possess certain knowledge, skills and values which are in high demand because they are scarce. A first 'sociological' explanation is that it is the social structure of the society which allows middle class children to have more education and that education reinforces the social structure of the society in terms of education and employment. A second 'sociological' explanation is that different types of education (shorter vs. longer) instill in pupils behavioural traits which make the functioning of the society and the economy possible. An exaggerated example was given of primary education instilling traits of compliance and obedience as opposed to secondary and higher education instilling traits of confidence, self-reliance, etc., and it is such traits which can command higher incomes. The 'psychological' explanation is that education acts as a selection device for employers so that more education will mean 'better' people and therefore higher incomes.

With this as a background, the ruralization of the primary school curriculum and the vocationalization of the secondary school curriculum were discussed. It was argued that children will typically aim for occupations with higher incomes and that to think that by ruralizing (through agricultural science) the curriculum children will stay in rural areas was a fallacy. This was distinguished from the ruralizing of primary education which aims at the provision of sufficient schools in rural areas to allow all rural children to attend school. On top of the fallacy argument just mentioned, it was also pointed out that rural curriculum often meets with opposition from parents and pupils, that the teachers are often incompetent in teaching agricultural science and that if a difference is made between urban and rural education, the latter becomes a second class curriculum and condemns rural children forever to being farmers.

Since manpower forecasting for specific skills is so inaccurate over more than a one or two year period, it is dangerous to vocationalize secondary education since once an institution is created it is difficult either to reform or remove it. It is also unfair to the pupils who may be taught a skill which in the period of a few years becomes redundant.

Rather, it was argued, education should be general, relevant to the environment and consistent with national policy and that specific vocational or rural training and re-training should be carried out by short periodic courses which normally occur under the umbrella of non-formal education.

At the same time, it was the contention of some of the participants that economic development which is the most crucial problem facing African countries at this stage of development could be maximized through agricultural education and vocational education. The participants felt that agricultural education and vocational education (centred on rural industrial crafts) had to be curriculum subjects.

Most African countries and African leaders are at this time approving agricultural and vocational education in their educational systems.

In the last lecture of the course the educational, selection and certification roles of examinations, tests, aptitude tests and continuous assessment were discussed. Reference was made to the Ceylon and Kenya plans. The discussion focussed on the type of close relationship required between the curriculum planners and the examination unit in a country.

Faculty

T.N. Postlethwaite, Course Coordinator, Associate Staff Member, IIEP, Paris, France

M. Blaug, Professor of Economics of Education, University of London Institute of Education, London, United Kingdom

R.H. Dave, Technical Director, Unesco Institute for Education, Hamburg, FRG

I.M. Omari, Lecturer in Education and Psychology, University of Dar-es-Salaam, Tanzania

H.N. Weiler, Director, IIEP, Paris, France

C. Wulf, Senior Researcher, German Institute for International Educational Research, Frankfurt, FRG

Readings and List of Books for Course C

Blaug, M., *Education and the Employment Problem in Developing Countries*, ILO, 1973

Bloom, B.S., *Stability and Change in Human Characteristics*, New York: John Wiley, 1974

Cole, M. *et al.*, *The Cultural Context of Learning and Thinking: An Exploration in Experimental Anthropology*, London: Methuen, 1972

Coombs, P.H., *The World Educational Crisis; A Systems Analysis*, O.U.P., 1968

Faure, E., *Learning to be*, Unesco, 1974

Havighurst, R.J., *Developmental Tasks and Education*, D. McKay, 1972

Lindzey, G. and Aronson, E., *Handbook of Social Psychology*, Volume 2, Addison Wesley, 1968

COURSE D:
TEACHER TRAINING

The course established the goals and objectives of teacher education in its two cycles: pre-service and in-service. It was argued that primary teacher training requires, as a prerequisite, a 'general education component' aimed at achieving effectiveness and relevance of content. Such relevance can be achieved by balancing the academic, the vocational and the cultural offerings of secondary schools and teachers' colleges' curricula.

In effect, academic *knowledge* should be acquired from a study of mathematics, environmental science and social studies. Vocational offerings should consist of a choice of at least *one design* and *one marketable skill*. *Cultural refinement and values* may be acquired from a study of languages, literature, religion, music, fine art and physical education. In this way, each student would have an opportunity to educate his head, his hands and his heart so as to become *skilled, informed and cultured (SIC)*.

The professional education component should seek to achieve instructional competence. To this end, the programme has to be organized in three distinct phases: the foundations, the laboratory and the practicum. The foundations phase should aim at a multi-disciplinary approach to education. It should examine and apply the philosophical, anthropological, psychological, economic, sociological and political aspects of education so as to make the student not only informed but also *knowledgeable*. The laboratory phase should concentrate on leadership training, child study, methodology and evaluation in order to make the student *responsible*. The practicum phase is expected to develop commitment, techniques and skills that induce students to become *persevering* in search of excellence.

The rationale and organization of in-service education was discussed in detail. Various types of in-service courses with examples of effective and economical programmes were cited. The course gave further assistance in understanding the cultural context of learning with particular reference to mathematics.

Faculty

A.M.K. Bagunywa, Course Coordinator, Director, National Curriculum Centre, Uganda
R.O. Ohuche, Associate Professor, University of Liberia, Monrovia, Liberia
G.A. Williams, Associate Professor, University of Lagos, Lagos, Nigeria

Readings and List of Books for Course D

Gage, N.L., Teacher Effectiveness and Teacher Education, Palo Alto, Cal.: Pacific Books, 1972

Rosenshine, B., Teaching Behaviours and Student Achievement, Slough, Bucks.: NFER, 1971

COURSE E:
EDUCATIONAL TECHNOLOGY

The course on Educational Technology began with a lecture on the Principles of Learning and the ways in which they can be applied to the development of curriculum materials as well as their implications for the instructional process. The emphasis in this presentation was on the application of principles to the group instructional process and their use in individualized instruction to supplement group instruction.

Mastery Learning procedures were described and their implications for the development of curriculum materials, evaluation procedures, and feedback and corrective procedures. This presentation emphasized the changing conceptions of individual differences in learners and stressed the conditions under which most learners can learn to a mastery level. The participants then constructed a formative test in their special subject.

Two lectures were presented on Programmed Instruction both as a part of the regular curriculum material as well as supplementary material for individual students. The emphasis in these presentations was on the basic principles for developing programmed learning materials, the results of using such materials in African schools and their special place in curriculum development. The participants attempted to develop brief exercises in programmed instruction.

Report

Two lectures were given on the general principles for the use of Educational Technology in curriculum development and instruction. These lectures emphasized the special place of educational technology in developing countries, the role of each type of educational technology, in improving the learning of students and the educational planning required to insure that educational technology makes a contribution to the learning of each student.

The final lecture attempted to synthesize the various approaches to the topic of educational technology and their implications for the work of curriculum centres. This summary was organized in the table on p. 44.

Faculty

B.S. Bloom, Course Coordinator, Professor of Education, University of Chicago, Chicago, USA

Sophie Bloom, Reading Coordinator, Board of Education, Chicago, USA

H. Dieuzeide, Director, Division of Methods, Materials and Techniques of Education, UNESCO, Paris

P.O. Okunrotifa, Department of Education, University of Ibadan, Ibadan, Nigeria

Readings and List of Books for Course E

Block, J., *School, Society, and Mastery Learning*, New York: Holt, Rinehart and Winston, 1974

Bloom, B.S., *Recent Developments in Mastery Learning*, American Educational Research Association, Annual Meeting, 1973

Bloom, S., "Learning Principles and Processes in Group and Individualized Instruction", in Bloom, S., *Peer and Cross Age Tutoring in the Classroom*, Washington, D.C.: National Institute of Education, 1975

Dieuzeide, H., "Educational Technology for Developing Countries", in *73rd Yearbook of the National Society for the Study of Education*, University of Chicago Press, 1974

Kim, Yungho *et al.*, *Toward a New Instructional System*, Korean Educational Development Institute, 1973

Okunrotifa, P.O., "Programming and Programmed Instruction"; "The Contributions of Programmed Instruction to Curriculum Development", papers presented at the African Regional Seminar, 1975

Skinner, B.F., *The Technology of Teaching*, New York: Appleton-Century-Crofts, 1970

UNESCO, *New Trends in the Utilization of Educational Technology for Science Education*

EDUCATIONAL TECHNOLOGY COURSE

	GROUP INSTRUCTION	SUPPLEMENT TO GROUP INSTRUCTION		INDIVIDUAL INSTRUCTION	GROUP AND MASS INSTRUCTION	
PRINCIPLES OF LEARNING	Curriculum materials and instructional procedures	Individualized instruction	Mastery learning	Programmed instruction	Small and intermediate technologies	Large scale technologies
Strength and meaningfulness of CUES Amount and intensity of practice and PARTICIPATION Variety and frequency of REINFORCEMENT	Use of principles of learning to analyse and appraise the materials and instruction Use of principles by curriculum experts to modify and improve curriculum materials and instructional strategies	Student learning teams Peer tutors Cross-age tutors	Feedback and corrective instruction Use of formative evaluation	Linear programming Branching programmes	Records, tape, films, slides, games, language laboratories	Radio, television
	Detailed application of learning principles by experts in curriculum and observers in the classroom	Use of cues, practice and reinforcement most appropriate to each student's needs Use of students helping each other to increase greatly the teaching resources available in the classroom Most effective for specific knowledge, specific skills and learning which needs intensive practice Both tutor and tutee develop better learning as well as improved attitudes and interests	Use of additional cues, practice and reinforcement needed by each student Some use of students helping each other Alternative learning materials including programmed instruction Most effective for new learning sequences Most students can achieve mastery with extra time and help Needs research and adaptation to fit local conditions	Immediate feedback and reinforcement, maximum responses and cues in small and clear steps Very effective for knowledge and simple skills Largely dependent on verbal materials Useful supplement to group instruction Requires careful frame writing and try-out before acceptable programmes can be developed	Teacher is the mediator Aids in the teacher-student relation Effective if used well in learning strategies Minimum effect on classroom Can be used in group instruction or as a supplement to it	Directed to learners or teachers or both Relatively complete in range of learning objectives that can be developed Very effective when used in appropriate learning strategies Require systematic planning and design Require much technical support Have major effects on educational reorganization

CURRICULUM PLANNING AND DEVELOPMENT SEMINAR

Twelve countries were represented at this seminar of team leaders. The first few seminar sessions dealt with country reports, exchange of views and materials and identification of areas of interest to participants and teams. It became quite clear fairly early in the course of this seminar that almost all the participants had had some training in curriculum work. Most of them actually worked in curriculum centres, while others were teachers in training colleges or institutes of education which help in preparing curricular materials for the schools in their home countries.

From the country reports it was obvious that curriculum development is very much centralized in many African countries, for example, in countries like Kenya, Uganda and Zambia syllabuses are prepared by the curriculum centres and fed into the school system country-wide. On account of its size and because of the federated system of government there is some degree of decentralization in curriculum development in Nigeria. Other matters of special interest that came out during the discussions on country reports included attempts being made to promote 'village technology' in Cameroon, through emphasis on technical-vocational education which is highly geared to local conditions, and the promotion of textbook production in Ghana. The need for a sufficient number of adequately trained curriculum developers also came in for some discussion. A number of centres would wish to have additional staff of high calibre if training could be provided. In a number of cases, too, reference was made to some difficulty in retaining trained staff. After further training higher pay in industry and other organizations attracts away some of the well qualified personnel from curriculum centres.

The planned programme for this seminar was based mainly on the Course A programme. Following the morning lectures the afternoon seminar meetings devoted time to discussing further the basic questions of curriculum development. The nature of educational objectives was discussed at length while examining the process of breaking down national educational objectives, subject-wise objectives, and unit-wise objectives to lesson-wise objectives.

It was not considered necessary for the group to spend time differentiating between the terms 'objectives', 'goals' and 'aims'. The important thing was to be consistent in their usage. But time was devoted to discussing classification of objectives into cognitive, affective and psychomotor domains and the hierarchical order of each type of objective. It was stressed that the curriculum planner should take account of the different levels and classes in planning his curriculum. He should also avoid taking on too many objectives.

The consideration of what learning experiences should be provided centred round certain general principles and conditions to be observed by the curriculum developers. It was observed that the learning experiences selected must be appropriate in different ways. They must suit and be of interest to the learner and be related to the objectives set. Opportunities should occur again and again for the learning experiences to be practised. Instances were cited to illustrate the use of these principles in selecting the correct type of learning experiences.

The consideration of what kinds of learning experiences to select flowed into the consideration of the question of organizing learning experiences. This question provided opportunity for considering both vertical and horizontal organization of the content of curriculum. The place of societal values in curriculum planning as a whole was given strong emphasis in considering this question. Apart from the value concepts, the importance of continuity, sequence and integration in building a good curriculum was stressed.

It was also pointed out that various forms of evaluation are applied in different centres. The important thing is that evaluation should not be limited to evaluators alone, but should involve curriculum developers, teachers and administrators. This is essential particularly in formative evaluation. Evaluation requires a variety of techniques which serve to supplement each other.

Quite some time was spent by the group in discussing examination practices in a few of the countries represented at the seminar. The interest centred mainly around selection examinations from primary schools to secondary schools. The problem created by inadequate secondary school places for the large number of primary school leavers is a serious one in all the countries represented in the group. The practice in Tanzania whereby each primary school has the chance of putting up two of its best pupils for consideration is considered quite unique. The list of recommendations is matched against the primary school leaving examination results list. Other factors like school records and leadership quality are taken into account.

The group also discussed topics of special interest. The concept of mastery learning, based on the principles of feedback, remedial treatment and time differentiation, was of interest to the group as a whole. Programmed instruction was also discussed at the seminar group meeting. Textbook production is a subject of special interest to most curriculum centres. The group therefore had a lively discussion led by a Ghanaian author. The discussion covered all the stages in book production starting from writing, publishing, printing to distribution of books. The seminar participants got acquainted with the structure and work of the National Curriculum Centre in Uganda and visited the Ghana Curriculum Development Unit as well.

All the teams represented attempted to write a team paper. The purpose of this paper was to provide an exercise in team approach to curriculum planning and development. It was also meant to get the members to focus attention on what they see as problems or important issues in the educational system of their countries. Having identified these curricular problems, the team papers were to suggest possible ways of tackling them during the next few years. Various factors were identified by the different teams. In the Gambia and Malawi, for example, there are no curriculum centres as yet and the Gambian team paper concentrated on how to establish such a centre. The Ugandan paper was concerned with improving and spreading pre-school education to many more people and integrating existing primary schools with local communities so that adults can come to the schools at specific times to acquire some skills that will enrich their lives. The Swaziland and Ghana papers dealt with problems in successful implementation of new curricula. The Zambian delegation decided to focus attention on summative evaluation of the new materials. The Sierra Leone and Nigeria teams felt there was need for a more effective and greater cooperation among the members or bodies responsible for curriculum matters in their countries. The Tanzanian group saw a need for more definite specification of objectives which should be in line with national policies.

On the whole, the seminar covered all the major steps in curriculum planning and development. Time was also found for certain topics like textbook production and management and administration of curriculum centres. Most of the team members participated quite readily in the seminar work and had a feeling that some useful work had been done.

Faculty

A.F. Menka, Seminar Leader, Curriculum Research and Development Division, Accra, Ghana

R.H. Dave, Technical Director, Unesco Institute for Education, Hamburg, FRG

African Regional Seminar

A.D. Mengot, Unesco Regional Office, Dakar, Senegal

P. Okunrotifa, Senior Lecturer, Department of Education, University of Ibadan, Ibadan, Nigeria

R.W. Tyler, Formerly Director of the Center for Advanced Study in the Behavioral Sciences, Stanford, California, USA

Readings and List of Books

Beauchamp, G.A. and Beauchamp, K.E., Comparative Analysis of Curriculum Systems, Wilmette, Ill.: Kagg Press, 1967

Bruner, J.S., Toward a Theory of Instruction, Cambridge, Mass.: Harvard University Press, 1966

Dahllof, U.S., Ability Grouping, Content Validity and Curriculum Process Analysis, New York: Teachers College Press, Columbia University, 1971

Goodlad, J.I., The Development of a Conceptual System for Dealing with Problems of Curriculum and Instruction

Goodlad, J.I. and Klein, M.F., Behind the Classroom Door, Washington, D.C.: Charles A. Jones Publishing Co., 1970

Kappan, Curriculum for the 70's, Vol. 11, No. 7

Postlethwaite, T.N., School Organization and Student Achievement; A Study Based on Achievement in Mathematics in Twelve Countries, Stockholm: Almqvist & Wiksell, 1967

CURRICULUM EVALUATION SEMINAR

The seminar on curriculum evaluation aimed at giving in-depth understanding of, and practice in the applications of various techniques of curriculum evaluation. The achievement of this aim was rendered somewhat difficult by the heterogeneous nature of the group of participants in this seminar, ranging from those who had Ph.D. or Masters in fields related to educational evaluation to those who were completely new to the field of evaluation. Nevertheless, the strong emphasis which was placed on actual practical work throughout the seminar provided continuous challenge to all members.

The first week started off with an informal exchange of information between participants about the nature of work going on in their various curriculum centres and their particular roles in such work. Then followed a brief introduction to the concepts of formative and summative evaluation which involved considerable discussion particularly with respect to the relevance of these concepts to curriculum development in the African situation.

As part of its practical assignment, the group had set itself the task of designing questionnaires for feedback during the seminar as well as for end-of-course evaluation. During the first week the group produced a comprehensive questionnaire on all the aspects of the Seminar, which was administered on the Friday of the first week. The seminar period on that day was spent in analysing the data and the results were available for the faculty meeting later that same evening. The information from this questionnaire did a tremendous lot to highlight the areas of dissatisfaction with or malfunctioning of the Seminar, and these problems were thus quickly and effectively tackled.

During the second week the group was introduced formally to the techniques of questionnaire construction. Perhaps the real highlight of this second week, however, was the practical experience that participants had of data processing procedures using the card punch and card sorter under the guidance of M. Bauer (DSE). Using the responses to the first week's questionnaire, participants carried out the coding of the responses, punched the data on IBM cards at the Legon computing centre and carried out the analyses using the card sorter. Having gone through the same exercise manually the previous week, the tremendous advantages of using the card punch and sorter were vividly demonstrated. The interest in low cost data processing became evident also in other seminar groups and therefore several additional visits were arranged by M. Bauer to cover the learning needs.

During the third week the group moved into the more sophisticated areas of research design and sampling. Practical application of the concepts were brought out by considering the IEA studies which generated lively discussion and inquiry. During the latter half of this week participants were introduced to observational techniques through leaderless group discussions. Attempts to code the verbal statements during these discussions brought out vividly the problems of observation and the finer points of the technique.

The fourth week began with training in test construction. Participants were trained particularly in the construction and use of formative tests of student achievement. The members of this seminar later acted as consultants to their country teams when formative testing was treated during the morning lectures under educational technology. In the latter half of this week participants were introduced to item analysis techniques. Here once again computer cards were used for presenting data which were subsequently analysed with the aid of pocket calculators provided for the seminar.

The fifth and final week was perhaps the most tricky because it was at this time that a presentation of statistical techniques was made, and the disparity in the background competencies of the participants became most pronounced. As a result of majority opinion, the faculty member began with descriptive statistics, all of which were covered in one day. Practical assignments were then given to participants to work on from home. Thus by the second day it was possible to move into computation of correlations and subsequently regression analysis. This week was largely revision for some of the participants, but the majority had a number of exciting new challenges and there was no doubt that their computational competence had improved by the end of the week.

In addition to the formal seminar work, each participant produced an individual paper focussing on some problem of particular interest to his computing centre. There was tremendous variety in the range of problems tackled. During the final stages of the week, a selection of these papers was presented by their authors and thoroughly discussed.

Responses to the final questionnaire by members of this group indicated a high desire for further training in evaluation techniques, especially techniques of data processing and analysis.

Faculty

E.A. Yoloye, Seminar Leader, Professor of Education and Director, International Centre for Educational Evaluation, University of Ibadan, Ibadan, Nigeria

C.A. Agbenyega, Formerly Deputy Director, Test Development and Research Office, West African Examinations Council, Ghana

B.S. Bloom, Professor of Education, University of Chicago, Chicago, USA

W. Falayajo, Senior Research Fellow, Institute of Education, University of Ibadan, Ibadan, Nigeria

T.N. Postlethwaite, Associate Staff Member, IIEP (Unesco), Paris, France

Readings and List of Books

Anderson, S.B. *et al.*, *Encyclopedia of Educational Evaluation*, Jossey-Bass, 1974

Belson, C.H., *Measurement and Evaluation in the Classroom*, Toronto: Collier-McMillan, 1970

Brown, F.G., *Measurement and Evaluation*, Itasca, Ill.: F.E. Peacock, 1971

_____, *Principles of Educational and Psychological Testing*, Hinsdale, Ill.: Dryden Press, 1970

Campbell, D.T. and Stanley, J.C., *Experimental and Quasi-Experimental Design for Research*, Chicago: Rand McNally, 1966

Cronbach, L.J., *Essentials of Psychological Testing*, Harper and Row, 1970

Draper, N.R. and Smith, H., Applied Regression Analysis, New York: John Wiley, 1966

Dubois, P.J. and Mayo, G.D., Research Strategies for Evaluation Training, Rand McNally, 1970

Ebel, R.L., Essentials of Educational Measurement, Englewood Cliffs, N.J.: Prentice-Hall, 1972

Gallagher, J.J. et al., Classroom Observation, Skokie: Aerea 6, Rand McNally

Green, D.R., Racial and Ethnic Bias in Test Construction, U.K.: McGraw Hill, 1971

Grobman, H., Evaluation Activities of Curriculum Projects, Skokie: Aerea 2, Rand McNally

Guilford, J., Psychometric Methods, U.K.: McGraw Hill

Gulliksen, H., Theory of Mental Testing, New York: John Wiley, 1950

Husén, T., International Study of Educational Achievement in Mathematics: A Comparison of Twelve Countries, New York: John Wiley, 1967

Kerlinger, F.M. and Pedhazur, E.J., Multiple Regression in Behavioral Research, New York: Holt, Rinehart and Winston, 1973

Lado, R., Language Testing, London and New York: Longmans and McGraw Hill, 1961

Lindsey, J.K., Inferences from Sociological Survey Data: A Unified Approach, Amsterdam: Elsevier, 1973

Lindvall, C.M. and Cox, R., Evaluation as a Tool in Curriculum Development: The IPI Evaluation Program, Chicago: Rand McNally, 1970

OECD, Evaluation Research and Action Programmes amongst the Educationally and Socially Disadvantaged, Centre for Educational Research and Innovation, OECD, Paris

Oppenheim, A.N., Questionnaire Design and Attitude Measurement, U.K.: Heinemann, 1968

Phi Delta Kappa National Study Committee on Evaluation, Educational Evaluation and Decision-Making, Itasca, Ill.: F.E. Peacock, 1971

Popham, W.J., Criterion-Referenced Measurement: An Introduction, Englewood Cliffs, N.J.: Educational Technological Publishers, 1971

Popham, W.J. et al., Instructional Objectives, U.S.A.: Aerea 3, Rand McNally, 1969

Schwarz, P.A. and Krug, R.E., Ability Testing in Developing Countries: A Handbook of Principles and Techniques, New York: Praeger, 1972

Thorndike, R.L., Educational Measurement, Washington: American Council of Education, 1971

Thorndike, R.L. and Hagen, L., Measurement and Evaluation in Psychology and Education, New York: John Wiley, 1969

Tyler, R.W., Educational Evaluation, New Roles, New Means, Chicago: University of Chicago, 1970

Tyler, R.W. et al., Perspectives of Curriculum Evaluation, Chicago: Rand McNally, 1967

Yates, A., The Role of Research in Educational Change, Palo Alto, Cal.: Pacific Books, 1971

Yoloye, E.A., Evaluation for Innovation, Newton, Mass.: E.D.C.

SCIENCE SEMINAR

In the last two decades many countries in Africa, Asia and Latin America have launched science curriculum development projects either at national or regional level. These projects are aimed at improving the quality and quantity of education. Very often, the new curricula have been influenced considerably by innovations in Europe, the United Kingdom and the United States. Indeed, some of the projects were simply imported and adopted with minor or no adaptation to local conditions even in cases where the value of the new programmes was doubted in the countries of origin.

The purpose of the science seminar was to examine critically through discussions the bases of science education and their implications in science curriculum development and implementation in the African context. Most of the members of the group came from curriculum centres in their home countries, except for a few members who were ministry of education officials or teacher training college tutors. However, in every case each member of the group was involved in one way or another in curriculum development in his country. The aims of the science seminar included:

1. The consideration of the role of science in general education.
2. The identification and specification of aims and objectives in science education.
3. Development of science programmes and materials.
4. Evaluation and testing of science programmes.
5. Strategies in implementation and quality control of curriculum programmes with special reference to science.

The participants devoted considerable time to discussing the above aims in detail during the seminar session.

Some references for background reading were given during the seminar. Each participant was provided with a wide selection of representative curriculum materials and books. A variety of films were shown to the participants during the seminar. The group had a practical session at the Science Unit of the Curriculum Development and Research Division in the Ghana Teaching Service. In this way it was hoped that the participants could have an idea about the aims and objectives, the nature and practice of science education which they could later apply to the situations in their own countries.

Report

The programmes for the seminar were prepared on a weekly basis in an attempt to respond to the needs of the group in specific areas besides the general outline to be covered in the seminar.

During the initial discussions the group examined the role of science in general education and the contribution of the Science Educator Programme for Africa and its affiliated institutions.[1] Each member of the group was given an opportunity of presenting a summary of a written paper on science education in his country followed by a short discussion. In the discussions in the seminar, some common problems running across national lines began to emerge clearly. These included the lack of adequate materials, the problem of developing materials suited to all the sections of the community (rural and urban environments), the problem of whether and when to teach integrated science and separate subjects, the problem of in-service and pre-service education of teachers, etc. The participants discussed each of these problems in detail.

All the participants developed sample curricular materials for their seminar papers. The individual projects varied in nature and extent. Some of the papers were on general issues in science education in the authors' own country or on a specific theme or topic in science education. In all the cases they attempted to apply the ideas presented in the course sessions in the morning and seminar sessions in the afternoon. The participants also contributed to the team efforts which focussed on the national problems which it is hoped will form the basis of further work when the participants return home.

During the last week the participants discussed the need for closer cooperation in their work through national science associations, regional associations and international associations such as the International Council of Associations for Science Education (ICASE). They also agreed to keep in contact with each other.

Faculty

E.M. Mugiri, Seminar Leader, Deputy Director, Kenya Institute of Education. Coordinator of School Science Project for East Africa in Kenya.

D.E.B. Chaytor, Professor of Zoology, University of Sierra Leone and Director, Teacher Education Programme, Science Education Programme for Africa (SEPA)

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[1] At the time of the Seminar, SEPA had two specialist institutions in Africa and a third one is planned. These are the International Centre for Educational Evaluation in Ibadan University and the Educational Programme for Teacher Trainers and Curriculum Implementation in the University of Sierra Leone Njala.

H.M. Dyasi, Executive Secretary, Science Education Programme for Africa (SEPA)

P. Nalletamby, Regional Adviser in Science and Technology, Unesco Regional Office for Education in Africa, Dakar, Senegal

O.C. Nwana, Professor of Education and Director, Curriculum Development and Materials Centre, University of Nigeria, Nsukka, Nigeria .

Readings and List of Books and Materials

Eating, Science Catalogue for Colleges and Universities
Catalogue of Cartridge Film Loops for Technical Education
Guide to Cartridge Film Loops 1971

E.D.C., Physics - Laboratory Guide

Freeman, Chemistry Laboratory Manual

Israel Curriculum Centre, Electricity - Outline Course for Grade 8

Kenya Institute of Education, S.S.P. Physics, Introductory Stat.
S.S.P. Physics Teachers' Manual, Year 3
S.S.P. Physics Teachers' Manual, Year 4
Agriculture

Lewis, J., Teaching School Physics

Mandelbaum, A., Electricity

N.C.E.R.T., Preparation and Evaluation of Textbooks in Biology

Nuffield Foundation, Combined science loop films: Fertilisation in the flowering plant (super 8 mm)

_____ , Secondary science loop films: Techniques of collection in a freshwater habitat
Foodweb, hydra: carbon dioxide and growth (film strips, 4 frames)
Evidence of evolution (pack of 32 pictures for field of study 2.3)

_____ , Foundation Science
Teaching project "O" level chemistry, loop films
Petroleum fractionation (super 8 mm)

_____ , Foundation Science
Teaching project "O" level biology, loop films
Reproduction in hydra (super 8 mm)

_____ , Publications by Longman:
Nuffield Advanced Physics:
Teachers' Handbook
Teachers' Guide I
Students' Book I
Students' Laboratory Book
Physics and the engineer
Apparatus construction drawings
Teachers' Guide; Supplementary mathematics
Unit 1: 35 mm film strips, materials and structure

Nuffield Chemistry (Stage 1):
Teachers' Guide I
Experiment sheets
Study sheets

Report

Nuffield Biology:
Teachers' Guide I, introducing living things
Text I, introducing living things

Nuffield Secondary Science:
Teachers' Guide
Apparatus guide
Theme 1: Interdependence of living things

_____, Nuffield Secondary Science 6
Nuffield Secondary Teachers' Guide
Physics - Guide to Apparatus

Ohuche, R.O., SEPA Science and Learning Theory, Newton: Educational Development Centre

_____, The Child's Conception of Movement and Speed, London: Routledge and Kegan Paul, 1969

Physical Science Study Committee, Textbook on physics, Boston: Heath

Schools Council, Macdonald Educational, Science 5/13:
Early experiences
Working with wood, stages 1 and 2
Working with wood background information
Time, stages 1 and 2, and background
Structures and forces, stages 1 and 2
Science from toys, stages 1 and 2 and background
Structures and forces, stage 3
Minibeasts, stages 1 and 2
Holes, gaps and cavities, stages 1 and 2
Change, stages 1 and 2
Metals, stages 1 and 2
Metals, background information
Ourselves, stages 1 and 2
Like and unlike, stages 1, 2 and 3
Coloured things, stages 1 and 2
Change, stage 3
Trees, stages 1 and 2
Science, models and toys, stage 3
Children and plastics, stages 1 and 2 and background

_____, Changes in School Science Teaching (Schools Council Curriculum Bulletin No. 3), London: Evans/Mathew.

_____, With Objectives in Mind, Science 5/13, U.K.: MacDonald Educational

_____, Structures and forces, stages 1 and 2
Structures and forces, stage 3
Early experiences
Newsletter 2
Physics - Pupils' Manual Year 1
Science for the Young School Leaver

S.C.I.S., Sample Guide
Newsletter No. 19, Fall 1970

Scottish Education Department, Integrated Science Course

SEPA, Handbook for Teachers

SEPA, *Report of Workshop on Environmental Science Education - Environmental Science Education for Pre-Service Primary Teacher Education*

Unesco, New trends in biology teaching, Vols. I, II and III

_____ , New trends in chemistry teaching, Vols. I, II and III

_____ , New trends in integrated science teaching, Vols. I, II and III

_____ , New trends in physics teaching, Vols. I and II

_____ , New Unesco source book for science teaching

_____ , *The Development of Science and Mathematics Concepts in Young Children in African Countries*

_____ , *Integrated Science Teaching in Asia* (Report)

_____ , *Planning for Integrated Science Education in Africa* (Report of a workshop)

Unesco/Nuffield, Physics - Guide to experiments, I, II, III, IV and V

Unesco/Adu Ampoma, Experimental science, 2, 3 and 4
Teachers Book 1 and 2
Teachers Book 3
Teachers Book 4

Unesco, *Le projet pilote de l'Unesco*

_____ , *Primary Science Teaching*

MATHEMATICS SEMINAR

The mathematics seminar heard reports from participants from Ghana, Kenya, Liberia, Tanzania, Uganda and Zambia on the state of mathematics education in each country. Each report included a brief statement of the structure of the educational system and present activities in pre-university mathematics education.

All the countries have accepted modern mathematics, given the interest generated by the African Mathematics Programme (AMP or Entebbe Math). Ghana and Liberia participated actively in both the AMP and its West African successor, the West African Regional Mathematics Programme (WARMP) and are both on the verge of introducing local adaptations of WARMP materials. Kenya was actively involved in the AMP and introduced modern mathematics into standard one in 1971. The book for standard six is now ready for introduction.

Uganda benefited from the workshops in Entebbe and is now offering modern mathematics in several secondary schools as well as in the top three grades of all primary schools. Texts, other materials and the necessary logistics arrangements are now in progress for extending modern mathematics to the remaining four classes of primary schools. Nigeria participated actively in the AMP and mathematics curricula frames drawn by the Nigerian

Education Research Council (N.E.R.C.) for primary schools, teachers' colleges and secondary schools were based on Entebbe materials. However, different states in the country are now at different stages in the implementation of modern mathematics programmes.

Tanzania and Zambia have both introduced modern mathematics series in primary schools. In the case of Tanzania where the language of instruction in primary schools is Kiswahili there have arisen some translation problems. Such problems are normally resolved through both the Swahili Research Council and the Swahili Council of Tanzania. In Zambia the new series has been introduced up to Primary 5, but Primaries 6 and 7 materials have been written.

The seminar discussed the following topics. the goals of mathematics education, behavioural objectives in mathematics, construction of tests in mathematics, strategy for unit construction, the structure of elementary school and secondary school modern mathematics curricula, the design and use of questionnaires in mathematics, using Piaget's ideas in mathematics education, and the role of a mathematics laboratory in the learning of mathematics.

The goals of mathematics education were viewed as utilitarian, cultural, social and personal. A questionnaire was constructed to find out reasons for decline of performance in mathematics. This was used to discuss the strengths and weaknesses of the questionnaire format as well as both open-ended and closed questionnaires. The group developed frames for mathematics curricula at the elementary and secondary school levels. Sets, functions and motion were used as unifying concepts and the spiral nature of the finished curricula was evident.

Some time was spent on using Piaget's ideas in mathematics education. The structure of and the sequence in the development of thinking as postulated by Piaget were discussed and the application of these ideas in classroom situations as well as in the development of curriculum materials received some attention. The mathematics laboratory was seen as a vehicle for the three types of activities, physical, mental and social, which Piaget's theory considers necessary for the development of thinking.

Faculty

R.O. Ohuche, Seminar Leader, Associate Professor of Mathematics Education and Head of Department of Secondary Education, University of Liberia, Monrovia, Liberia

J.S. Jackson, Senior Lecturer, Department of Mathematics, University of Ghana Legon

G.A. Williams, Associate Professor and Deputy Provost, College of Education, University of Lagos, Lagos, Nigeria

Readings and List of Books and Materials

Brydegaard, M. and Inkeep, J., Readings in Geometry from the Arithmetic Teacher, Washington, D.C.: N.C.T.M., 1970

Dillons, Publications of the Mathematics Project (20/25 1.)

Gay, J. and Cole, M., *The New Mathematics and Old Culture*, New York: Holt, Rinehart and Winston, 1967

Lovell, K., *The Growth of Basic Mathematical and Scientific Concepts in Children*, London: University of London Press, 1968

_____ , *The Teaching of Secondary School Mathematics*, U.S.A.: National Council of Teachers of Mathematics, 1970

McNaughton, A.E., *Evaluation in Secondary School Mathematics*, Melbourne: Victoria Education Department, 1970

Montgomery County P.S., Elementary Mathematics, Grades K-6
Elementary Mathematics Independent
Activities for the Upper Grades

N.C.E.R.T., *Preparation, Production and Evaluation of Textbooks in Mathematics*

N.C.T.M., Readings in Geometry, Washington, D.C.

_____ , *The Teaching of Secondary School Mathematics*, Washington, D.C.: 1970

Ohuche, R.O., *Geometry, Estimation and Measurement in Traditional Sierra Leone*, London: Education Division of the Commonwealth Secretariat, 1973

Piaget, J., *The Child's Conception of Number*, London: Routledge and Kegan Paul, 1952

SEPA, *Handbook for Teachers* (preliminary edition), Education Development Centre, 1974

_____ , *Science and Learning Theory*, Accra: 1974

Unesco, *The Development of Science and Mathematics Concepts in Children*

_____ , *Teaching School Mathematics*

B.P. Co. Ltd., Film "I do and I understand"

Cuisenaire Co. Ltd., Cuisenaire Rods (152)

Longman, 8 standard films: Algebra of classes 1

SOCIAL STUDIES SEMINAR

Seven participants from six countries only took part in the social studies seminar. The countries represented were Cameroon, Gambia, Ghana, Kenya, Nigeria and Uganda.

In a way the size of the seminar is a reflection of the fact that social studies is a very new area of educational endeavour in many parts of the world. Many countries of Africa are only just beginning to realize the need to develop social studies curricula.

The newness of social studies in Africa posed two major problems for the seminar. Firstly, some of the participants came to the Seminar with very little background knowledge and experience in social studies curriculum development. Secondly, the absence of published materials that are relevant to the African situation posed the problem of illustrating theoretical ideas with examples.

This second problem was, however, dealt with by an intensive use of experimental materials from Ghana and Nigeria. An attempt was also made to give participants the opportunity to learn techniques of writing curriculum materials.

The seminar objectives, outlined with the above problems in view, were generally as follows:

a). To give participants deeper insight into the philosophy and concept of social studies.

b). To expose participants to the concept of systematic curriculum development and to help them to appreciate the merits and limitations of this approach to curriculum development.

c). To give participants an opportunity to increase their practical knowledge in curriculum development.

The first days of the seminar were used in giving participants the opportunity to know each other. Participants also gave accounts of developments in the field of social studies in their countries. The accounts, which were later put into writing, revealed that while some countries (e.g. Nigeria and Ghana) were at the implementation level, others (e.g. Gambia) were yet to establish a curriculum centre and start a social studies project. In between these two were countries like Kenya and Uganda where some work had already started.

With this variety of the background of the participants in view, the strategy adopted at the seminar was to present problems in their simplest form before moving onto the advanced stage so as to achieve mastery learning in the group. A high level of participant involvement was achieved through a variety of strategies. Participants were made to probe problems, and the group was guided to arrive at conclusions which were later summarized into daily report hand-outs.

Participants were introduced to the technique of reducing broad curriculum goals into general and specific or behavioural objectives.

An attempt was made to develop gradually a conceptual framework for social studies. The principle behind the model is that social studies is related to the interaction of the individual and his environment. Social studies is concerned with social and individual change. The group identified social change with development, evolution and modification of culture, which implies the retention of the valued old and the adoption of the valued new. The group also identified change in the individual sense to be synonymous with behavioural changes in respect of skills and attitudes to self, others and the state (or community).

The model helped participants to categorize objectives in social studies into:

a). Those that are related to attitudes and values,
b). Those that are related to skills, and
c). Those that are related to concepts.

The seminar group was of the opinion that since most African countries were faced with the problem of conflicting values, and since political, social and economic development was highly dependent on the development of appropriate attitudes, the first category of objectives should receive prominent attention in African social studies programmes. It was found that the development of critical thinking was essential for the formation of valid value judgements, and therefore for the development of attitudes and values. The acquisition of facts, characteristic of the old social studies, was found to be of little permanent value. Participants were encouraged to consider facts as materials for the learning of concepts, attitudes and values and skills. Fenton's set of curriculum materials entitled The Americans was used in illustrating this point.

The group examined the concept of discovery learning and its implications for the teaching of social studies. It was realized that this new approach was asking a lot more from the teacher than meets the eye. It was pointed out that the curriculum planner must help to allay the teacher's fear of loss of status and fear of ignorance by providing the appropriate materials and orientation that could give the teacher adequate confidence in himself and his methods of teaching.

The group also realized that since the method of teaching had direct implications for learning, it was necessary to draw teachers' attention to the values they teach by their method or approach. Discovery learning or activity method was in this regard considered to be essential for the learning of democratic values, that is, assuming the larger community values, individual participation and involvement in group activity and decision making. Similarly, group work in the school situation was considered to be a valuable organizational technique for the learning of attitudes.

Participants were given various tasks to increase their expertise in curriculum development. They were made to develop specific objectives from general objectives, use flow charts to find specific objectives, write learning units, by which they learnt how to select appropriate activities for objectives, and how to sequence activities and suggest organizational techniques for the teacher's guide. Implementation strategies were discussed. For example, participants explored some of the means by which they could convince others to see the value of and need for social studies.

Toward the end of the seminar participants worked individually on assignments of their own choice. The variety of problems dealt with in this regard again reflects the stages of curriculum development in the participating countries. A significant observation is that the problems dealt with by the individuals were directly relevant to the work of each participant at home. For example, the participant from Kenya mapped out strategies for reviving a suspended social studies project in her country. The participant from Uganda devised a questionnaire intended to be used by members of his social studies panel in evaluating a curriculum content outline developed recently in his Curriculum Centre.

At the end of the seminar, two areas stood out for further or follow-up activity. These are related to experience in developing evaluation techniques and instruments, and practical experience in the development of curriculum materials. Both areas were touched upon at the seminar, but could not, in the time available, be dealt with adequately to make participants truly functional back at home. Both areas are, however, vital for the effective development of social studies in Africa.

Faculty

W. Blege, Seminar Leader, Formerly Head of Ghana's Social (Environmental) Studies Project; Member of the Curriculum Research and Development Division of the Ghana Teaching Service. Has been serving as consultant to the African Social Studies Programme and member of several curriculum panels in Ghana.

C.A. Adewole, Executive Secretary, African Social Studies Programme, Nairobi, Kenya

K. Asiedu-Akrofi, Dean, Faculty of Education, University of Cape Coast, Ghana

E.N.E. Udoh, Lecturer in Sociology, Institute of Education, Ahmadu Bello University, Nigeria

Readings and list of books and materials

ASSP, Nairobi, Set of materials

Beger, B.K., Concepts in the Social Studies, Washington, D.C.: N.C.S.

Clark, L.H., Teaching Social Studies in Secondary Schools: A Handbook, U.K.: Coller-MacMillan, 1973

Fenton, E., The Americans: A History of the United States

_____ , The New Social Studies for the Slow Learner for a Junior High School American History Course, New York: Holt, Rinehart and Winston

Lines, C.J. and Bolwell, L.H., Teaching Environmental Studies in the Primary and Middle School, U.K.: Ginn and Co., 1971

Longman, Audio visual aids:
Common ground filmstrips:
Ghana: Progress and Problems
Patterns in Africa
Africa: Rift Valley, Volcano and Gorge

MacMillan and Co., Geography in Urban Age; Association of American Geographers
Unit 2: Manufactoruing and Agriculture
Unit 3: Cultural Geography

Montgomery County P.S., Social Studies Curriculum

N.C.E.R.T., Preparation and Evaluation of Textbooks in Social Studies

Spindler, G., Education and Culture; Anthropological Approaches, London: Holt, Rinehart and Winston, 1963

LANGUAGE SEMINAR

An attempt was made to cover a wide range of issues relating to the problems of language in curriculum development, implementation and evaluation in developing African countries. The main topics considered were: identification of objectives of a language policy, the place of contrastive studies in language teaching, language learning theories (cognitive), basic language teaching methods, scope and sequence of language teaching items, construction of prototype lesson units, evaluation of teaching (trial) material, complementary (supplementary) reading programmes, problems of reading with particular reference to the principles of reading readiness materials, printing and publishing procedures for language books (texts and courses), basic principles of constructing pupils' workbooks and tests, and the various kinds of simple language teaching aids.

The first four topics were regarded as providing the necessary theoretical foundation for work on the subsequent topics which were handled through practical exercises and activities. The first topic in particular generated a lot of discussion and became perhaps the greatest subject of interest and importance to all seminar participants. Most participants tried their hands at outlining an educational language policy for their respective countries.

A brief outline of the first four topics, as discussed, is as follows:

I. Language Policy. Identification of Objectives

   A. What a language policy is:

      1. Political dimension

      2. Educational dimension

   B. Properties of a language policy:

      1. Political dimension

      2. Educational dimension

   C. The desirability of an intersection between the political and the educational dimensions of a language policy

   D. Identification of educational objectives for the various kinds of languages in developing African countries

      1. The mother tongue: a principal subject as well as the medium of nursery education; a principal subject and (wherever practicable) the medium of primary education; a subject of study with language and literature components at secondary and post-secondary levels of education

      2. The second language: principally a subject of study at all levels of education and the medium of instruction in secondary and post-secondary institutions

      3. The foreign language: mainly a subject of study at secondary and post-secondary levels of education.

II. The Place of Contrastive Studies

   A. What is a contrastive study?

   B. Limitations of each contrastive study set by the linguistic theory adopted for it

   C. Various issues in contrastive studies

      1. Linguistic matters

      2. Sociological issues

    3. Psychological issues
    4. Educational matters
  - D. The value of contrastive studies
    1. Monolingual description
    2. Bilingualism or multilingualism
    3. Bi- and multi- culturalism

III. Language Learning Theories (Cognitive)

- A. What is language?
- B. What is learning?
- C. What is a theory?
- D. Factors influencing language learning theories
  1. Concept of what language is
  2. The place of learning
- E. The various language learning theories:
  1. Based on the notion of the language situation (idealized/ non-idealized)
  2. Based on the nature of the fundamental role of the individual in the process
  3. Based on the age and experience of the individual
  4. Based on the nature of the language community or society

IV. Basic Teaching Methods

- A. What is teaching?
  1. A sort of training of the individual in order to obtain certain skills
  2. A process of equipping the individual with knowledge, facts and attitudes
- B. Can human beings be taught?
  1. Subjects or courses can be taught
  2. Human beings learn
- C. The teacher helps the learners to learn
  1. By exposing them to the right information (language materials in language learning)
  2. By ensuring that the best situation for learning is created for them
  3. By motivating them adequately
  4. By creating in them the best conditions for learning

D. Teaching methods should ideally be established for three different stages in the learning process:
   1. The pre-presentation stage: course designing, textbook writing, scheme of work and lesson plan
   2. The presentation stage: approaches based on language situation, basic skills, and course components
   3. The post-presentation stage: skill-based actions and tests

In dealing with the other topics, materials brought by members of the seminar faculty as well as the participants provided the basis for initial discussion, followed by group and individual practical activities and exercises. From those activities and exercises certain useful generalizations were derived. To give an insight into the types of useful generalizations derived, here is, for example, a brief outline of those relating to two of the topics:

I. Scope and Sequence of Language Items
   A. Considerations for determining content (scope):
      1. Capacity of learner
      2. Length of time available
      3. Frequency of lessons per week
      4. Language components desired for chosen objectives
   B. Organizing principles for the content (sequencing):
      1. From near to far
      2. From common to rare
      3. From easy to complex (structures)
      4. From concrete to abstract
   C. Organizing elements:
      1. Units (vocabulary; pattern practice; silent reading; composition)
      2. Chapters or topics (past tenses; plurals; prepositions)
   D. What is to be organized?
      1. Vocabulary items
      2. Structural items
      3. Skills (listening, speaking, reading, writing)
      4. Values, attitudes

II. Complementary (Supplementary) Reading Programmes: The Identification of Ten Separate Educational Tasks for an Overall Reading Programme
   A. Reading as an association of sound with writing symbol
   B. Reading as recognition of word meaning
   C. Reading as recognition of speech patterns

D. Reading as advancement of linguistic competence

E. Reading as interpretation of meaning

F. Reading as acquisition of information

G. Reading as acquisition of knowledge

H. Reading as satisfaction of vocational interests

I. Reading as influencing character and personal development

J. Reading as a search for life-long education

Throughout the seminar there was generally much opportunity for sharing the experiences of all members. In the same spirit, during the members' free time, a working visit was paid to the Ghana Curriculum Centre, the Language Centre and the Institute of African Studies at the University of Ghana at Legon. These are the major institutions at which various language curriculum activities are undertaken in Ghana.

Finally, the members of the language seminar worked out a recommendation for establishing an Association for Language Teaching in Africa and nominated an Interim Committee of this Association (see Chapter VI).

Faculty

A. Afolayan, Seminar Leader, Senior Lecturer, Department of English, University of Ife, Ile-Ife, Nigeria

A.M.K. Bagunywa, Director, National Curriculum Centre, Kampala, Uganda; elected member of the Executive Board of Unesco (1974-1978)

C. Musisi, Senior Specialist, English Language and Literature, National Curriculum Centre, Kampala, Uganda

Readings and List of Books

Ames, S.R., Nkrumah of Ghana, U.S.A.: Rand McNally

Bendick, J., Lightning, U.S.A.: Rand McNally

Burt, O., Space Monkey, New York: The John Day Co.

CDC Nebraska, A Curriculum for English Grade 9
A Curriculum for English Unit 89
A Curriculum for English Units 94-96

Cleary, B., Fifteen, New York: William Morrow, 1956

_____ , Heny and Beezus, New York: William Morrow, 1952

Dakin, J. et al., Language in Education - The Problem in Commonwealth Africa and the Indo-Pakistan Sub-Continent, O.U.P., 1968

Davies, A., Language Testing Symposium - A Psycholinguistic Approach, O.U.P., 1968

De Jong, M., Shadrach, New York: Harper and Bros., 1953

Earle, O., Squirrels in the Garden, Columbia: Teachers College

Enright, E., The Saturdays, U.K.: Holt, Rinehart and Winston, 1941

Falkner, J.M., Moonfleet, U.K.: Longman

Fishman, J.A., Current Trends in Language Planning, The Hague: Mouton, 1973

_____ , Advances in Language Planning

_____ , Advanced in the Creation and Revision of Writing Systems, The Hague: Mouton, 1974/1975

Fishman, J.A. et al., Language Problems of Developing Nations, New York:

Friedman, The Janitor's Girls, New York: William Morrow

Grahame, K., The Wind in the Willows, New York: Scribners and Sons, 1908

Haggard, Sir Rider, King Solomon's Mines, U.K.: Longman

_____ , Montezuma's Daughter, U.K.: Longman

Hester, R., Teaching a Living Language, Harper and Row, 1970

Kessler, C., The Acquisition of Syntax in Bilingual Children, Washington, D.C.: Georgetown University Press, 1971

Lado, R., Language Teaching, New York: McGraw Hill, 1964

_____ , Language Testing, London: Longman; New York: McGraw Hill, 1961

Lipkind, W., Days to Remember, U.K.: Ivan Obolensky

Lyons, J. and Wales, R.J., Papers in Psycholinguistics, Edinburgh, 1966

Mackey, W.F., Interference, Integration and Synchronic Fallacy, Quebec: I.C.R.B., 1970

_____ , Language Teaching Analysis, London: Longman, 1965

Marryat, Capt., Children of the New Forest, U.K.: Longman

McGovern, A., The Story of Christopher Colombus, U.S.A.: Random House

N.C.E.R.T., Preparation and Evaluation of Textbooks in English

_____ , Preparation and Evaluation of Textbooks in the Mother Tongue

Norton, M., The Borrowers, U.S.A.: Harcourt, Brace and World

O'Doherty, E.F., The Evidence of Bilingualism and the Problem of an Early Start in Learning a Foreign Language, Hamburg: Unesco Institute, 1962

Peal, E. and Lambert, W., The Relation of Bilingualist to Intelligence, Montreal: McGill University, 1961

Perren, G.I. and Trim, J.L., Applications of Linguistics, O.U.P., 1971

Pride, J.B., The Social Meaning of Language, O.U.P., 1971

Rivers, W.M., The Psychologist and the Foreign Language Teacher, Chicago: University of Chicago Press, 1964

Rounds, G., Stolen Pony, New York: Holiday House, 1948

Rubin, J. and Jernudd, B., Can Language be Planned? Honolulu: East-West Centre and University Press of Hawaii, 1971

Rubin, J. and Shuy, R., Language Planning: Current Issue and Research, Washington, D.C.: Georgetown University Press, 1973

Schwab, J.J., The Practical: A Language for Curriculum, Washington, D.C.: Rational Education Association Center for the Study of Instruction, 1970

Selden, G., The Cricket in Times Square, New York: Ariel Books, Farrar, Straus and Cuday, 1960

Stern, H.H., Language and the Young School Child, O.U.P.: 1969

Twain, M., The Adventures of Tom Sawyer, U.S.A.: Rand McNally

University of Nebraska, Language for elementary grades units 89-90; 91-93 Teachers' Guide 94-96, Lincoln: Nebraska

Valdman, A., Trends in Language Teaching, U.K.: McGraw Hill, 1966

Weinrich, U., Languages in Contact, New York: Publications of the Linguistic Circle, 1953

Whiteley, W.H., International African Seminar 1968: Language Use and Language Change, O.U.P., 1971

CHAPTER V

EVALUATION OF THE SEMINAR

Feedback Information

In a programme as complex as this one with such a heterogeneous group of participants in terms of country of origin, previous training and previous experience, it is clear that no set of plans could work satisfactorily unless appropriate adjustments are made at each stage of the programme. In Chapter III reference was made to channels and mechanisms for continuous feedback throughout the Seminar. Further to this, questionnaires for the end of the first week and the end of the third week were administered in order to have a more formal feedback from all participants, such that the daily working of the Seminar could be adjusted. These questionnaires were developed by the members of the evaluation seminar under the guidance of Professor Yoloye and M. Bauer of the DSE. Michael Bauer was particularly active in both the drafting of the questionnaires and their scoring. A third questionnaire was developed for the end of the fifth week to evaluate the whole Seminar.

First and third week questionnaires

The first questionnaire led to an immediate improvement of the structure of the morning courses. The lecture time was limited to 40 minutes for each lecturer. It became obligatory for each lecturer to distribute a short summary of his lecture in advance. Each lecturer was requested to give as many practical examples as possible in his presentation as well as in his reference to the African situation.

An attempt was made to take care as far as possible of some other areas of complaints such as bed sheets, food, lack of recreational facilities.

At the end of the third week, the second questionnaire served primarily to provide each seminar leader with a feedback concerning his seminar. Therefore many questions covered the seminar aspect. In addition, the opinion of the participants regarding time allocation for lectures vs. seminars was investigated.

Each seminar leader received a detailed analysis of the opinion of his seminar participants and where necessary seminars were restructured, both in terms of content and the structuring of the learning situation. Another important outcome was the rearrangement of the fourth week of the Seminar, since the results of the questionnaire had shown that most participants wished more emphasis on seminar and team work as well as individual work, to finalize their individual and team papers. In addition, the form of the lectures was modified to become more workshop-like.

Reactions of Participants at the end of the Programme

On the last Tuesday of the course an 'End of Programme Questionnaire' was handed out to all participants. They were requested to complete it and hand it in by the Thursday morning. In the last week of the Seminar 64 participants were present on campus and 55 (i.e. 86%) completed the questionnaire. This questionnaire, with a summary of the responses of the 55 persons completing it, may be found in Appendix 6. The questions were concerned with general comments, the lectures, the specialization seminars, and team composition and work.

General comments

Nearly all participants felt that they had benefited from the Seminar, particularly in that they now felt more confident in pursuing their own curriculum work. They felt that their ideas had been broadened and that they could improve their own work both individually and as teams when they returned home. In particular, they felt that the notion of systematic curriculum development and team work was very important for them. Some expressed the wish that policy makers in their countries could have been exposed to the ideas and principles discussed at the Seminar.

On average it seems as though four weeks might have been a better length for the Seminar than five weeks. About half thought the Seminar to have been too long, but six persons would have preferred a more in-depth treatment of certain topics which would have required more time.

The exchange of ideas of theory and practice in curriculum development in the various African countries was considered to be most useful. The cooperation and interaction between faculty and participants was considered to have been excellent and productive. Most participants stressed that the programme had been highly relevant to the educational needs of Africa, although one or two persons indicated that some of the non-African lecturers had been unable to give African-related examples for theoretical principles they were enunciating. At the same time as stating the benefit of the programme to themselves and their teams, several persons pointed out the need for follow-up activities to be very specifically stated and implemented at the national level.

The general social atmosphere was considered to be excellent and conducive to learning - "the social atmosphere was very lively and people mixed easily. A new language seemed to develop" - "the social and cultural interactions among participants were very refreshing. The easy accessibility of the faculty and the organizers has generally contributed immensely to the relaxed atmosphere". However, several participants felt that more social functions and excursions should have been organized. Some felt that the problem of the stipend for participants caused difficulty, since several of the participants were high-ranking officials in their own countries and therefore faculty and participants should have been treated in the same way.

The physical conditions at the GIMPA campus were considered adequate, although several complained about having to share toilet facilities when some of the members had self-contained rooms. It was felt that the library should also have been in a larger room such that it could have been a reading room at the same time. It was also felt that copies of the books in the individual seminar libraries should also have been in the general library.

Lectures

In general, the idea of exposing all persons in curriculum development, whatever their specialty, to a common set of lectures in the morning courses was considered to be beneficial. In particular, the place of evaluation in the curriculum development process became apparent to all members of a team. Most became aware of new dimensions in curriculum development as a result of the lectures and each team was able to identify a common framework for its own work and discussions.

The results for the questions on the different parts of the courses can be seen in Appendix 6. As can be seen, most participants felt that the ideas presented were clear and would be of value for future curriculum work in their own countries. Attention should be drawn to possible exceptions to this general finding. Several felt that the ideas put forward in the lecture on Vocational and ruralized education in the Social and Individual Change course were not clear, but this might also be interpreted as participants' disagreeing with what was said, rather than feeling that the ideas presented were not clear. Fifteen persons felt that the ideas presented in the lecture on The three phases of the professional education component: foundation - laboratory - practicum, in the Teacher Training course were not clear. The same was true for The use of selected systematic techniques to maximize the learning effects of curriculum programmes, in the Educational Technology course. Fourteen persons felt that the lecture on Programmed instruction in the Educational Technology course would not be of value to them in their future work. However, these were minor exceptions to the general rule.

In nearly all cases a good two thirds (and often more) of the participants indicated that they would like to have further training in each of the topics dealt with.

Seminars

Twenty-two out of thirty-seven persons felt that additional topics should have been covered in the Seminar. Three topics were mentioned several times. These were a). textbook writing; b). book and materials production; and c). audio-visual aids production. The setting up of a curriculum centre was mentioned by a few. Otherwise there were single requests for very specialized sub-topics.

The books in the seminar libraries contributed a great deal to the deeper understanding of participants in their specialty. There was, however, some doubt about the benefit of the work in sub-groups within the seminars.

Nearly all felt that they learned the problems of their specialty in other countries and stated that this helped them to see ways of improving their own work or "correcting their mistakes" as some phrased it. This was true for all seminar groups. All felt that their individual paper helped them to synthesize new ideas for future work in their country, that they could use the contacts they had made during the Seminar to exchange materials and ideas, and to keep aware of developments in their field in other curriculum centres.

The detailed results of the evaluation of each sub-topic in each seminar can be seen in Appendix 6, and the results speak for themselves. It is of interest to note that most feel they would like further training.

Team work

Nearly all felt that the Seminar had helped the members from a particular curriculum centre (or prospective one) to get to know each other better, have a common frame of reference, and realize the need for real team work in the curriculum development and evaluation process. In particular, the fact that each curriculum centre's personnel arrived at their own common consensus for curriculum development was felt to be very important. All had ideas on changes to make to improve their own collective work over the years to come.

Many centres felt that it was important to have continuous contacts among the African curriculum centres and have proposed the founding of an African Curriculum Organization (see Chapter VI). This they feel to be of utmost importance for future work in their region.

The team work was gauged to be of more use than the team paper, but of the team work conducted it was suggested that more might have been done during the Seminar about the training of other persons in the curriculum centre by the teams.

The utility of the Seminar

The foregoing paragraphs have described the evaluation procedures which took place during the Seminar (for feedback for improvement during the Seminar itself) and at the end of the Seminar (for feedback for the improvement of future seminars either in Africa or elsewhere). However, the real test of the utility of the Seminar is whether it results in improvement of the day-to-day curriculum development work in each of the nations and in the children's learning.

It has been proposed that there should be a follow-up evaluation in each of the nations about one year after the end of the Seminar. At that point it should be possible to assess what changes have taken place, or are about to take place, in the curriculum centre (or the steps taken in the establishment of a new centre) as a result of the African Regional Seminar.

It is suggested, *inter alia*, that the following should be assessed and that the persons from the centre who attended the Seminar should be asked to what extent (probably on a three-point rating scale) the changes were due to ideas emanating from the Seminar:

1. Changes in the model of curriculum development (i.e. number and sequence of stages in the process)
2. Changes in the links with outside agencies (e.g. inspectorate, examinations system, teacher training authorities, etc.)
3. Changes in the use of evaluation in the curriculum development process
4. The training of other curriculum personnel
5. The changes in the way in which team work is conducted in the centre.

In detail, questions will be asked on each of the points in the end of programme questionnaire under:

i). 3a - curriculum planning and development (2, 3, 4 and 5)
ii). 3b - curriculum evaluation (2, 3, 4 and 5)
iii). 3c - social and individual change (new attempts to examine the social, economic and cultural changes in the nation and revisions of the curriculum resulting from such changes)
iv). 3d - teacher training (the attempts to influence directly the content of teacher education courses on the basis of newly developed curricula)
v). 3f3 - the role of language
vi). Selected points from each of the seminars (to be selected by the seminar leaders)

It is suggested that, if funding is available, a member of the faculty should, through correspondence and visits, assess such changes and, at the same time, catalogue new problems and needs.

CHAPTER VI

FOLLOW-UP ACTIVITIES

Throughout the Seminar emphasis was laid on discussing the possible fields of follow-up activities and on establishing an organizational framework for further cooperation in systematic curriculum development in Africa. This chapter describes three types of proposed follow-up activities: Section I (by Dr A.D. Mengot, Breda) deals with possible action at national level; Section II is a proposal by the Seminar participants for the establishment of an African Curriculum Organization; and Section III (by P. Nalletamby, Breda) discusses the possibility of a francophone training seminar.

I. Possible Follow-Up Action at National Level

United Republic of Cameroon

In order to understand the issues and problems of the reform of the educational system of the United Republic of the Cameroon and therefore be in a better position to suggest possible follow-up action in curriculum development and evaluation as a result of the African Regional Seminar, it is necessary and important to refer to the statement published in the Pre-Seminar Booklet (p. 50):

> Organization, aims and work of the Cameroon curriculum centres
>
> Because of the bi-cultural situation of the United Republic of Cameroon, it is not expedient in the early stages of its national education development to talk of the curriculum centre of Cameroon, for it is still in the process of evolving out of representative sub-curriculum centres. Three separate institutes working together in close liaison, but with each carrying out a clearly defined curriculum assignment, cover among themselves all three levels of education. IPAR, Yaoundé (Institut de Pédagogie Appliquée à vocation Rurale), established in 1967 is devoted to primary education reforms in the francophone zone of Cameroon, while IPAR, Buéa, created in 1973, is concerned with reforms in primary education in the anglophone zone. INE, Yaoundé (Institut National de l'Education), created in 1973, deals with the whole national system of education from nursery to university.
>
> The whole reform drive in Cameroon education centres on a threefold aim, namely:
>
> (1) to replace the unutilisable aspects of the classical or bookish type of education with practical education adapted to the Cameroon milieu. (The natural learning process is and must be one of experimenting, doing

things, discovering new knowledge and learning from real life, rather than memorizing tons upon tons of facts.)

(ii) to evolve an educational system which puts into the hands of the products of the system the practical know-how (savoir-faire) for earning an independent livelihood without recourse to or expectation of white-collar jobs. The products of the system must discover in themselves self-reliance, as agents of production capable of transforming their rural environment with their own hands to give them a better life.

(iii) to harmonize the two inherited systems of education (French and English) and evolve a distinctly Cameroonian national system of education.

IPAR Yaoundé has since its inception been training new rural teachers, retraining existing teachers, working out new syllabi, producing school textbooks, introducing various teaching aids and running some 290 experimental classes. IPAR Buéa is still in a first phase of two years devoted to the research and the study of the problems of primary education and teacher training in the anglophone provinces. After this first phase of collecting and analysing information, IPAR Buéa would be in a better position to introduce desirable changes in the primary schools and training colleges. INE Yaoundé, for its part, is responsible for all the research for reforming the whole national system of education.

Since the majority of the participants (four out of the six Cameroonian participants) came from IPAR Buéa, it is to be expected that any follow-up action should be for IPAR Buéa. I had discussions with the staff of IPAR Buéa on 30 June, 1975, at Buéa and then again in Achimota on the future programme of IPAR. My impression is that the staff of IPAR Buéa (including the members of the German Foundation working in Buéa), were not quite clear as to what the next phase of development and programme activity will be after the termination of the "first phase of two years devoted to the research and the study of the problems of primary education and teacher training in the anglophone provinces". There is need for understanding of what IPAR should ultimately accomplish. IPAR's undertaking calls for answers to some important questions:

Are there any proposals for new curricula to replace the present primary school curricula in the two anglophone provinces in pursuance of the first objective of the "reform drive in Cameroon education centres"?

When will the "desirable changes" to be introduced "in the primary schools and teacher training" be decided? Or when will the harmonization of the two inherited systems of education (French and English) be brought about?

These are questions which have to be discussed with the competent Cameroonian authorities in order to give purpose and clear directives to IPAR Buéa in its task of reforming the educational programme at the primary and teacher training levels in the two anglophone provinces.

Immediate follow-up action
Leaving these serious issues of policy aside for the present, I think that the immediate and reasonable follow-up action by IPAR Buéa is the publication of the very interesting research and innovative work so far accomplished in the different disciplines, work which aimed at identifying the socio-economic and cultural problems that affect education and society in anglophone Cameroon. The case study organized by Michael Bauer and presented by the Buéa IPAR team to the Seminar was excellent. It was an interesting narrative of the field research that has been done in the two anglophone provinces in English, science, maths, social studies, arts and crafts (technology). All that has been done and what still remains to be done should be published.

The publication, which must include the reports of the UNDP/UNESCO Chief Technical Adviser (Mr Kenneth Robinson who left last June), should be available in English and French and submitted to all parties concerned - UNDP, UNESCO, the German Foundation and the Cameroon Government. The report will mark the end of the two years of exploratory research and provide an answer to the question, "What is IPAR Buéa really doing?"

It is when the report is in the hands of all parties concerned that one can logically pose the question, "What is the next phase and programme of action of IPAR Buéa?" It is to be hoped that the German Foundation will provide the necessary material and financial resources to ensure the publication of the report.

The Republic of The Gambia
In actual fact The Gambia has no curriculum development centre. Although at the request of the Gambian Government a UNESCO Adviser in curriculum development arrived in Banjul in May 1975 to set up the Gambia Curriculum Centre, everything is still at the planning stage at present. The Curriculum Unit/Resource Centre is expected to become fully operative only in September 1976. I held discussions with the four Gambian participants in Achimota and at the end of our discussions the Gambian team came up with the following recommendations for follow-up action:

A National Curriculum Conference

Curriculum development should have as its point of departure the educational objectives of the nation. We therefore suggest that our national educational objectives should be defined. In order to do this, the Education Department (Gambia) should, with the help of the UNESCO Curriculum Adviser, convene a national curriculum conference whose objectives should be:

(i) To give the widest possible opportunity for the expression of the most representative professional and informed lay opinion in conference with a view to resolving some controversial educational issues that precede curricular decisions.

(ii) To identify talented professional educators who may be commissioned for part-time or full-time employment by the centre.

(iii) To promote public awareness of the educational problems of The Gambia.

(iv) To make recommendations to the Government on the issues discussed.

The participants in this conference should, therefore, be able persons drawn from a cross-section of the Gambian community. These should be politicians, agricultural officers, mechanical officers, teachers, education officers, employers, parents, etc.

Training of Staff

As we are fully aware that there is no Gambian curriculum specialist at the moment and that whoever is appointed to the Centre will need training in curriculum development, we strongly recommend the launching of an efficient training programme for the staff of the Centre.

The Director will not only need a training in curriculum development, he will also need to visit other curriculum centres in Africa in order to see what is going on in them. He should be given ample opportunity to study the links which exist between curriculum centres and teacher training colleges, examination boards, educational planners, teachers, inspectors of schools, welfare organizations, universities, industry, commerce, agriculture, parents, etc.

The Evaluator must be an expert in his field since the whole Curriculum Centre depends on evaluation to determine in which direction the Centre's work is going.

The Subject Specialists must be absolutely capable of developing curricula in their various subjects. This involves the ability to translate national educational objectives, which are usually general and vague, into specific objectives for the teaching and learning process. It also involves the ability to write learning units and textbooks as well as the ability to conduct in-service and pre-service courses for teachers.

There is no doubt that The Gambia will welcome financial assistance to organize a national curriculum conference.

Report

Ghana

I interviewed the two Ghanaian teams in the presence of Mr Albert Menka, Director of the Ghana Curriculum Research and Development Division of the Ghana Teaching Service. The paper they handed to me is a very comprehensive document which highlights some of the salient features of the New Structure and Content of Education of Ghana as embodied in the Dzobo Report of February 1974. Because the document summarizes the implementation strategies envisaged for the period 1974/75 - 1980/81, and because the Ghana Curriculum Centre is under pressure from the Commissioner for Education for rapid curriculum changes, the Ghana teams submitted the following plan of action (the financial implications of the plan and the details of planned activities they promised to work out later):

National Educational Goals Since 1951

The Accelerated Education Plan of 1951 made education open to all citizens of Ghana. This Plan was in operation till the 1961 Education Act was passed in parliament. This Act formulated the following broad educational objectives for the country:

1. It shall be the duty of the local education authority for every area as far as its functions extend to contribute towards the spiritual, moral, mental and physical development of the community by securing that efficient education throughout the primary and middle stages shall be available to meet the needs of the population of its area.
2. Education must be compulsory for all people of school-going age.

Observations

(i) These objectives were global in nature, but comprehensive enough to satisfy the needs of the society and enable the country to have meaningful growth depending on how they were translated into operation.

(ii) The Act seemed to have made curriculum development the responsibility of the local education authorities.

(iii) The national educational goals in the Act were a replica of those of the British Education Act of 1944 for England and Wales.

(iv) The educational objectives outlined in the Act were translated into general and academic curriculum and the educational system operated as such for over a decade.

During the period of 1961 - 1971, people started to raise issues on the dysfunctionality of the educational system. The most serious issue raised against the educational system was related to the problem of unemployment of school leavers. A study carried out in 1966 by Subrahmanya and Scott showed that unemployment among our middle school leavers was 57% 18 months after leaving school.

As a result of general public dissatisfaction with the curriculum, the Curriculum Research and Development Unit submitted proposals on the structure and content of education for Ghana. These proposals were subjected to public discussion and the final version of the proposals was embodied in the Dzobo Report on New Structure and Content of Education for Ghana.

The report outlined the following objectives for the country:

(i) Education should serve the needs of the individual, the society in which he lives and the country as a whole.

(ii) Education should instill in the individual an appreciation of the needs for change directed towards the development of the human and material resources of the country.

(iii) Education must generate in the individual an awareness of the ability of man, using the power derived from science and technology, to transform his environment and improve the quality of his life.

The 1974 objectives are different from those outlined in the Education Act of 1961, because the Report went a step further to spell out specific objectives for the various levels of pre-university education in Ghana. The specific objectives cover the development of concepts, skills and attitudes.

The Curriculum Outline in the Report

The Dzobo Report outlined the broad spectrum of the curriculum for the various levels of pre-university education in the country. Structurally, the Report introduced major changes to diversify the curriculum. For example, it incorporated kindergarten, vocational, technical and commercial education in the public system in a significant way.

The Report states that the study of languages, mathematics, science, agriculture, and practical and vocational subjects shall be given the greatest emphasis and pupils shall participate fully in cultural activities, youth programmes and in sports and games.

Right from primary school, the development of vocational skills has been introduced in the curriculum and practical activities relating to animal and crop husbandry, marketable local craft and cultural studies are emphasized.

The learning of a second Ghanaian language, French, social studies, cultural studies, agricultural science, home science, pre-nursing and youth programmes must be introduced at the junior secondary level. In addition, 13 other practical subjects have been listed, out of which the student must select two. At the senior secondary level, the study of a Ghanaian language and French has been made compulsory.

The curriculum as outlined in the report is relevant and valid for the country. What is important is how it is translated into operational terms and implemented.

The Design of the Curriculum

In designing the curriculum for the new objectives, the following factors should be given serious consideration:

(a) The number and nature of learners in the educational system.

(b) The quality and quantity of the teachers.

(c) Materials, physical conditions, financial and human resources available.

(d) Schedule for implementation as given by the policy makers.

Some of the questions which need urgent answers at this stage of the development of our new curriculum are:

(i) Given the number of learners in the system, what will be done to provide learning materials, namely, subject content outlines (syllabuses), learners' workbooks, textbooks, and learner resource materials?

(ii) Given the quality and number of teachers available in the system, what should be done regarding training and retraining of teachers, and the development of teachers' resource materials?

(iii) Given the personnel and resources available at the Curriculum Division, at what rate will the Division proceed in order to cope with the targets set by the policy makers?

(iv) What are the cost components of (i), (ii) and (iii) above?

(v) Given that the educational expenditure should not exceed 25% of the national budget, what should be done to ensure that necessary physical facilities and equipment are provided to meet the demands of the curriculum?

Necessary answers to the above questions would provide guidelines for the strategies to be used in implementing the curriculum.

Implementation Strategies

For a systematic and efficient implementation, the whole strategy for implementation could be mapped out as shown in the table on p. 82.

The new curriculum is a broad one in that for the primary school not less than 13 subject areas have been prescribed and at the junior secondary level not less than 25 subjects have been listed out of which the student is expected to choose 14. The curriculum is to be implemented on a national scale starting with Primary One in September 1974. The state of the implementation strategies for materials development and induction courses as at August 1975 is shown in the table on p. 83.

Table 1. Strategy for implementation

Information required 1974/75 - 1980/81	Action required 1974/75 - 1980/81	Action by
Number of pupils by levels No. of schools by levels Types of school buildings by levels Types of schools and their organization (boarding, day, mixed, single sex)	Provision of adequate school accommodation, furniture and equipment	Planning Division, Ghana Teaching Service
Number of teachers Categories of teachers	Training and retraining of teachers	Manpower Division/ Planning Division/ National Teacher Training Council. C.R.D.D.
Student text and resource materials by level and discipline Number and types of teacher resource materials by level and discipline	Provision of adequate and suitable learning and resource materials for students and teachers	C.R.D.D./ Publishers
Number and types of resource personnel (subj. organizers, curriculum developers, in-service training personnel)	Training and retraining of the resource personnel	C.R.D.D./Planning Manpower
Research and evaluation requirements of the curriculum	Mapping our research and evaluation areas and subsequent modification of curriculum materials	C.R.D.D./ Inspectorate ?
Evaluation for selection, promotion and certification purposes	Re-examination and modification of the existing machinery and procedures for selection, promotion and certification	Ministry of Education/ C.R.D.D.
Cost components of all the above	Budgeting	Planning Division/ Ministry of Education

Table 2. IMPLEMENTATION STRATEGIES FOR MATERIALS DEVELOPMENT AND INDUCTION COURSES AS AT AUGUST, 1975

SUBJECT	TEXTBOOKS	PUPILS' WORKBOOKS	LEARNER RESOURCE MATERIALS	TEACHERS HANDBOOK WITH EVALUATION MATERIALS	CONTENT OUTLINE/ SYLLABUS	POSITION OF INDUCTION COURSES
Ghanaian Language	Available but not adopted	Available but not adopted	Available but not adopted	Available but not adopted	Available but not adopted	Planned
2nd Ghanaian Language	Available but not adopted	Available but not adopted	Available but not adopted	Available but not adopted	Available but not adopted	Plan needed
Mathematics	Available but not adopted	Available but not adopted	Available but not adopted	Available but not adopted	Available but not adopted	Planned
Science	Not desirable	Not desirable	Available and adopted	Available and adopted	Available and adopted	Planned
Local Craft	Not desirable	Not desirable	Available but not adopted	Available but not adopted	Available but not adopted	Plan needed
Voc. Subjects	Not desirable	Not desirable	Available but not adopted	Available but not adopted	Not available	Plan needed
Social Studies	Available and adopted	Available and adopted	Available and adopted	Available and adopted	Available and adopted	Planned
Animal Husbandry	Not available	Not available	Available but not adopted	Not available	Not available	Plan needed
Crop Husbandry	Not available	Not available	Available but not adopted	Not available	Not available	Plan needed
Cultural Studies	Not desirable	Available but not adopted	Available but not adopted	Not available	In preparation	Plan needed
Youth Programme	Not desirable	Not desirable	Available but not adopted	Not available	Not available	Plan needed
French	Not desirable	Not available	Not available	Not available	Not available	Plan needed

Liberia

I had discussions with the three members of the Liberian team, but regret to say that at the end of our discussions and after many days, the leader of the team told me quite frankly that they could not, without further discussions with the senior officials of their Ministry of Education, recommend what follow-up action was necessary. This, in my opinion, was a very frank and honest assessment of the situation in the country. I visited Liberia from 6 - 11 June, 1975, to see what was going on in the field of curriculum development and teacher training. My visit unfortunately coincided with the period of intense political activities at national level for the election of the President and Vice-President, and it was therefore difficult for me to see such high-ranking personalities as the Permanent Secretary, the Vice-Minister of Education, the Minister of Education, and others. I visited the UNDP/UNESCO Rural Teacher Training Project at Kakata - some 50 miles out of Monrovia, the capital. This is an institution with an enrolment of 155 young teachers, (and as planned) with 200 pilot schools that should be affected by its primary school reform programme. A day's visit (made possible through the kind cooperation of Mrs Josephine Greaves-Badio, Director of Curriculum Planning and Development of the Ministry of Education) gave me the opportunity to meet the staff of Kakata and to discuss the project with them.

From my assessment of the situation through discussions with the Liberian participants at Achimota, and from the discussions I had with the Principal and staff of Kakata, much thinking and planning are necessary at the Permanent Secretary/Minister level in order to coordinate and make effective the work of curriculum development and reform of the school system and teacher training.

Mrs Greaves-Badio is an energetic and dynamic woman, but she certainly does not have the qualified and capable staff that can bring about an effective programme of curriculum development, production of suitable learning materials and teaching methods that will result in the reform of the school programme in the country. It is against this background that her difficulty in deciding what follow-up action was necessary (following the African Regional Seminar) can be understood and appreciated.

Nigeria

The largest number of participants came from Nigeria, but the participants did not constitute teams working in curriculum development centres.

Mr J.M. Akintola, the Secretary of the Nigeria Educational Research Council (NERC) established in 1965, explained why the participants were selected from different States of Nigeria. Nigeria is a Federal Republic and education in Nigeria is the responsibility of each federated State. To have brought three teams from Nigeria would have meant selecting the three teams from three federated States and such a selection would have been quite unacceptable to the Federal Government as well as to the federated States' Governments. (Some of the people selected to go to Achimota were not released by their Governments to travel.) The problem was quite clear and the explanation reasonable.

A brief account of the reform of the educational system in Nigeria which engendered curriculum development will provide the background against which the efforts and problems of curriculum development can be better understood.

The need to review the curricula in schools and colleges in Nigeria was amply discussed and analysed by the 1969 Curriculum Conference. In the report of that Conference the philosophies to guide such curricular actions or exercises were spelt out for each level including primary, under the Conference decisions and recommendations. In brief, the overriding intentions or goal was to make education at each level more meaningful and relevant to the needs of the people and the country as a whole via the development and implementation of more appropriate curriculum at the various levels of the educational system.

In compliance with the decision and recommendations of the 1969 Curriculum Conference, the Nigeria Educational Research Council has, through national curriculum workshops, developed new curricula for primary schools (1971) and Grade II Teachers' Colleges (1972), and has recently concluded a national workshop on secondary education.

There are programmes of curriculum development in many States financed under bilateral and multilateral agreements, e.g. the Primary School Science Programme of the Mid-Western State (at Abraka Teachers' College) - a UNESCO/UNICEF project; the Primary Education Improvement Project (PEIP), operating in the six Northern States of Nigeria. This project started in 1968. The participating agencies in the project are UNESCO/UNICEF and the executing agency is the Institute of Education of Ahmadu Bello University, Zaria. In the Western State of Nigeria the Ford Foundation was financing the six-year Yoruba Language Project by the Institute of Education, University of

Ife, at Ile-Ife. The first set of students who did the course completed it in June this year, but the project has run into financial difficulties, because the Ford Foundation has announced that because of financial problems the Foundation is facing, it can no longer continue to finance the Yoruba Language Project. A related project to the Yoruba Language Project is the Yoruba Language Dictionary on which considerable work has been done by Dr Afolayan and his colleagues. Funds are needed for the publication of the dictionary. Nigeria's most formidable and urgent task is the Universal Primary Education (UPE) Scheme for the whole of the country to come into operation in 1976.

Because of the federal nature of the country and the present changes taking place, Mr Akintola pointed out that while it was necessary to identify the problems and therefore possible areas of follow-up, he could not say definitely (without prior consultation with the Federal Ministry of Education) what type of follow-up was necessary for Nigeria.

Sierra Leone

"Summary of Constraints to Curriculum Development

1. **Financial** - Inadequate funding for the on-going programmes.
2. **Personnel** - Lack of teachers and supervisors trained in the relevant techniques; first at the teacher training level, and eventually at the primary school level. There is also the need for the services of evaluators as part of the unit. A librarian/documentalist is also needed.
3. **Materials** - Consumable as well as non-consumable materials are in short supply.
4. **Equipment and vehicles** - Adequate and up-to-date equipment as well as road-worthy vehicles are most necessary.

Strategies for Overcoming Constraints

The African Regional Seminar provides an excellent opportunity for analysing the basic problems of curriculum development in Sierra Leone and gaining insights which may facilitate the development of strategies for resolution. The main problems requiring speedy solutions may be summarized as:

(a) The development of a comprehensive framework for curriculum improvement which not only utilizes an integrated approach (rather than a subject-centred approach) but also provides a smooth coordination of and transition to the different levels of the educational system.

(b) The training of personnel at all levels to undertake the wide range of responsibilities involved with curriculum development and evaluation.

(c) The problem of generating financial resources required for the development of instructional materials and procedures, as well as for the training of teachers, accommodation and transportation costs.

(d) The development of suitable (research) evaluation designs for assessing the effects and effectiveness of new curricula.

1. National Curriculum Conference

It is proposed that some of the issues related to developing an integrated approach to curriculum development may be resolved by the holding at a suitable time of a national conference in Sierra Leone to which participants from all levels and aspects of curriculum development will be invited. The Regional Seminar, it is hoped, will generate enough enthusiasm and provide sufficient insights and expertise to facilitate such a conference.

The difficulties of establishing an overall approach stem in part from:

(a) the absence of a conceptual framework, and
(b) the unavailability of a full-time curriculum coordinator.

The inter-relationships among various levels of the educational system, together with the variables and factors which influence the curriculum, are essential elements which will feature prominently during the seminar.

The participants from Sierra Leone, working effectively as a team, should provide the stimulus for such a national curriculum conference.

2. Personnel Training

The Regional Seminar provides opportunities for participants to benefit from advanced study of the theoretical and practical aspects of curriculum development and exchange of ideas with other participants. However, for the adequate preparation of other personnel needed for the Curriculum Revision Unit, a training programme is thought to be necessary. Sources of funding and the availability of fellowships and facilities would have to be explored.

3. Funding

The second phase of the IDA agreement between the Sierra Leone Government and the International Development Agency is expected to provide some of the financial requirements of the project. However, it would be necessary for other sources of funding to be sought. The strategy required here may include the establishment of a chain of professional relationships through which funding agencies may be able to assist. The Regional Seminar is likely to be useful in this respect.

4. Evaluation Design

The Research Division of the Institute of Education is expected to collaborate with the Curriculum Revision Unit in working out evaluation procedures for assessing the effects and effectiveness of new curricula. In this respect, the African Regional Seminar will provide fresh perspectives which will facilitate this exercise. The development of a continuous process of evaluation will, it is hoped, provide the basis for a monitoring mechanism during the formative period of the curriculum process in addition to giving an overall picture at the summative level of the programme's limitations and achievements."

Uganda

"Strategies

The National Curriculum Development Centre has subdivided the school subjects into three components aimed at producing a skilled, informed and cultured citizen. The call for vocational education at both the Inaugural and Paraa Curriculum Conferences has prompted the Centre to establish agricultural education and technical education units aimed at providing a marketable skill and a design skill respectively. The unit for language is now fully manned. Also existing are the social studies unit and the publications unit. The agriculture, language and social studies units have already drawn up objectives considered relevant to their respective areas, and gone further to write up syllabi relating to the stated objectives. The agriculture unit has held a fruitful writing workshop which resulted in a manuscript for an S1 and 2 textbook. Both the language and social studies units are ready to hold their first textbook writing workshops.

Non-Formal Education

The plans for non-formal education in Uganda concur with Unesco's principle that 'every individual must be in a position to keep learning throughout his life. The idea of life-long education is the keystone of the learning society'. (1) To put into practice this concept of life-long education, the Centre is taking the following steps:

Pre-school education

Though not officially included in the country's school system, pre-school education is accessible to the lucky few who can afford to pay for it in the existing poor, highly commercialized kindergartens, run by private individuals and organizations, and clustered in the few urban areas. Considering the importance of pre-school education during the vital formative years of the child, let alone the psychological reasons for its necessity, it is regarded as being socially unfair to leave the situation regarding pre-school education as it is now.

To alleviate the situation, it is planned to mount a nationwide programme in which learning centres for infants will be established. In these centres the children will be exposed to pre-mathematical concepts, pre-reading skills, manipulative skills, language, games, cultural and aesthetic skills.

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1) UNESCO, Learning to be, Paris: UNESCO, 1972

During the execution of this programme, self-instructional material will be provided to the centres and animators (mainly secondary school leavers and drop-outs) will be employed to guide the children in the activities. Part-time kindergarten teachers will assist in orienting the animators and in supervising the learning centres in their respective location.

It is expected that this programme will give equal educational opportunity to all children by providing them with a fair start in their early years. The programme will also increase their achievement propspects by giving them a sound foundation.

Limitations

1. Lack of qualified personnel for early childhood education.
2. Lack of educational self-instruction materials.

Assistance needed

1. Qualified personnel for early childhood education to:
    - Advise on the establishment of the proposed learning centres;
    - Advise and assist in developing learning programmes for this level;
    - Advise and assist in developing local material for learning at this level.
2. Educational self-instruction material
   Assistance is needed for obtaining material for early childhood education. Such material is that which cannot be locally produced such as models, writing/drawing materials, and most playthings.
3. Training
   Assistance is needed in training local personnel through orientation courses and fellowships/bursaries to train in other countries where relevant professional courses are available.

Community Schools

Basic to the idea of community schools is the role of education in the nation's development - economic and otherwise. Literacy is considered to be a fundamental tool for modern development, but in a country where 90% of the population is illiterate, the magnitude of this challenge is considerable. In order to reduce the magnitude of this problem, and to accelerate development, it is proposed that all our primary schools be integrated with the communities which they serve.

In this arrangement, the primary school will be a centre of learning whereby children will be given formal education, comprising the normal school subjects. In addition, they will be exposed to learning experiences which will include cultural and craft skills. This category of learning experiences will be done in the afternoons with some assistance from parents and other resource people.

Parents and other adults will come to the school in the afternoons where they will be offered learning experiences leading to functional literacy and numeracy. Health education and other similar programmes will be offered through multi-media at special times for listening and viewing. Resource people from the community will assist in giving education on the modern skills in agriculture and other trades.

Correspondence courses, to be offered by the Centre for Continuing Education, Makerere University, will be made available to young people and adults in need of advanced courses to suit their various needs.

Problems
1. Lack of qualified personnel.
2. Educational material.
3. Transport.

Assistance needed
1. Qualified personnel to:
   - Advise and assist in preparing educational programmes for young people and adults;
   - Advise and assist in producing educational material for the proposed programme.
2. Educational materials needed include radio and TV sets.
3. Transport
   A truck or an omnibus is essential for the entire project of out-of-school education for the transportation of the programme personnel and educational material to the various parts of the country.

Curriculum Evaluation and Textbook Writing

The need for curriculum evaluation in the process of curriculum development need not be over-emphasized. The Centre in Uganda, like in any other country, was set up in response to the demand for change in school curricula, to cater for the needs of a fast changing society in a new nation. Necessary changes in the school curricula embrace the whole gamut of educational experiences which the schools are expected to provide. Included in these are course programmes, methodology, textbooks and examinations.

In order to accomplish this task, the Centre needs subject specialists, textbook writers and people who are knowledgeable in curriculum evaluation. It is, however, curriculum evaluators and textbook writers that the Centre seriously lacks. In the light of the necessity for a systematic curriculum development process where every stage must be evaluated to ensure economic feasibility and maximum returns, curriculum evaluation and textbook writing assume a high degree of importance. But the problem with respect to the areas indicated above is lack of trained personnel.

Assistance needed
Training
Fellowships/bursaries are needed to enable the Centre to have its personnel take courses in curriculum evaluation and textbook writing in institutions where such programmes are available.

Audio-Visual Aids Development Unit

A full-blown audio-visual aids unit is an essential part of any curriculum development centre. As the centre moves into full production of school textbooks, teachers' guides and other course units, the need for audio-visual material to supplement the set courses becomes a reality.

Dependence on teaching/learning aids imported wholesale from foreign countries can be dangerous in that these aids have been developed and tested on learners in a foreign culture and a number of them may not be culture-free. Continued importation of these materials involves the country in spending scarce foreign exchange every year.

The answer, therefore, is for the Centre to design, develop and test its own audio-visual teaching/learning aids. The kind of assistance needed, therefore, is in the form of equipment and short-term fellowships for training audio-visual aids personnel.

The type of audio-visual aids development unit that the Centre envisages should cater for the following:

1. Still photography

   Facilities for taking and processing still photographs on 35 mm. and 4 x 5" film formats, printing half and full tones and processing slide transparencies.

2. Movie Photography

   Facilities for shooting, processing and projecting both 8 mm. and 16 mm. cinematographic pictures for micro-teaching units required in pre-service and in-service education.

3. Documentation

   Facilities for the storage, retrieval and reproduction of documents on microfilm and photocopier.

4. Sound and Image Recording

   Facilities for recording and reproducing sound and/or image by way of magnetic tape, phonograph, video-corder and TV.

5. Graphic Aids

   Facilities for the preparation and presentation of graphic aids; flannelgraph, magnetic board, pegboard, transparencies for overhead projection, and positives for epidiascopic projection."

Kenya, Liberia, Malawi, Swaziland, Tanzania and Zambia submitted no concrete plans for follow-up action. The participants would like to report back to their governments and leave it to their respective ministries of education to decide on the action considered necessary.

To sum up, taking into consideration what the different participants/teams identified and recommended as necessary action, the following measures were considered as logical and relevant follow-up to the Seminar:

- Priority should be given to helping those countries that want to carry out a thorough education review of their educational systems - defining the new structure, the aims and objectives of education and in establishing curriculum development centres to develop new curricula to ensure the relevance and effectiveness of education for the citizens of tomorrow, e.g. Botswana, The Gambia, Lesotho, Malawi and Swaziland.

- The existing body of untrained educational administrators and supervisors will undoubtedly benefit from programmes of initial and in-service training. If this is not done, many of them will find increasingly that they will be dealing with subordinates (teachers) with a greater knowledge of teaching skills and new techniques than they. Training and involvement of administrators and supervisors will greatly minimize opposition to educational reform and innovation in the schools. (SIDA is now financing a course in Educational Administration and Management for middle-level personnel for a number of countries in Eastern Africa - the aim being to train educational administrators and supervisors to play a more effective role in a climate of social change and educational reform.)

It is becoming more and more accepted that one of the major obstacles to effective administrative and supervisory practice in Africa is the traditional view that any successful professional classroom teacher will automatically become an efficient and effective administrator able to adapt to changing circumstances in educational philosophy and practice. Experience in many countries shows that this assumption is false. Administrators and supervisors need professional training in a climate of change.

- Assistance should be given to countries to strengthen their capacity for self-reliance in curriculum development and evaluation through the training of personnel in principles of curriculum development, evaluation, textbook production, audio-visual techniques, testing and measurement (examination techniques) and educational technology.

- Training in research methods - in particular in 'pedagogical research' so that curriculum developers are better equipped with knowledge about the teaching and learning processes as well as techniques of evaluation.

- Participants would like to participate in special seminars/workshops organized specifically on evaluation. Many curricula and new projects aimed at the reform of the system have been introduced in many of the countries, but many of these projects have not been evaluated to determine their success or otherwise, and this is largely due to the lack of trained evaluators.

- Assistance for in-service training of teachers and workshops for the production of teaching and learning materials, for the teaching of science at primary and secondary levels and the construction and equipment of science laboratories.
- The Seminar recommended the formation of an African Curriculum Organization "to bring curriculum centres and curriculum specialists in Africa closer together for a cooperative attack on the problems of curriculum development, etc.". (See Section II of this chapter.)

Attention was drawn to the fact that whatever assistance that will be made available should supplement, but not duplicate the work of other national and international agencies, hence the need for closer cooperation and formal consultation with the ministries of education to determine the implications of each programme of action in order to ensure the fullest possible participation by all those interested and the success of the programme as a whole.

II. Follow-Up Action at Regional Level

During the second half of the Seminar the participants discussed in detail the possibility of submitting proposals to establish an organization which would promote the work of curriculum centres in Africa as one of the follow-up activities of the Seminar. A committee was therefore set up under the chairmanship of Mr A.M.K. Bagunywa and later of Professor E.A. Yoloye, and with Dr V. Johnson as secretary, to formulate recommendations in this connection. After several meetings and discussions of both the committee (which later included all the team leaders) and the participants, the following resolution was unanimously approved by the participants at the closing ceremony.

RESOLUTION

WHEREAS

The UNESCO meeting of experts on Curriculum of General Education held in Moscow 16 - 23 January, 1968, reported in Part IV of its proposals for international and national action that:

> "National Centres for Curriculum Development and Research
>
> The process of curriculum construction is a very complex one requiring a variety of experts to participate in the development of specifications, learning materials, evaluation procedures and educational research. The most effective curricula are now being

developed by those nations fortunate enough to possess curriculum centres with appropriate teams of experts.

It is recommended that Member States of Unesco be helped in the creation of national centres for curriculum development and research through initial financial support, consultants, training opportunities and dissemination of information. The major effort of Unesco should, however, be directed to relating the knowledge and experience available in some countries to the support of other countries in this work.

Exchange of Experience

The various procedures associated with curriculum development constitute an educational technology which is well known in theory, but less well exemplified in practice. The number of national centres engaging in curriculum development is, however, growing and it is the opinion of the meeting that current procedures could be refined and better practices realized, if there were an interchange of information about the techniques that have been evolved.

The meeting recommends for consideration by Unesco the problem of how the interchange of experience of curriculum development might be facilitated. In particular, the meeting invites Unesco to consider the possibility of bringing together for a training session of a month or more, followed by other meetings at regular intervals, national teams, the members of which would thereby get to know one another, and so establish a network of communication which would make knowledge available.

Assistance in Curriculum Development and Evaluation

It is recommended that frequent systematically organized meetings of curriculum experts be held to assist in the evaluation and development of curricula. Such meetings should be conducted at international, regional and national levels.

A curriculum is not static, either in its content or in its methods. It must be under continuous review and revision, preferably by teachers working with experts in the field. Curriculum reform commissions should be permanent bodies concerned also with the preparation of materials and retraining of teachers. Curriculum reviews should be systematically planned, rather than ad hoc. Further, as new methods and techniques are evolved for curriculum development, for evaluation and for learning and instruction, there must be machinery for disseminating knowledge about them between and within countries.

It is further recommended that Unesco assist:

i). by organizing international and regional meetings of curriculum experts;

ii). by encouraging and aiding national authorities to develop their own procedures and programmes."

and WHEREAS

The Conference on Education and Scientific and Technical Training in Relation to Development in Africa held in Nairobi 16 - 27 July, 1968, jointly sponsored by O.A.U. and UNESCO adopted resolution III:

"Reform of Primary Education

The Conference

invites the African governments:

1. To ensure that the primary education systems of the African countries, in ways varying from country to country:
    a). achieve as soon as possible the 100% school enrollment at primary level which was scheduled for 1980 in the Addis Ababa Plan and which is in conformity with the right to education, the desire for education shown by the peoples of Africa and the democratization willed by the governments;
    b). contribute to the strengthening of national unity;
    c). bring about the social and cultural integration of children in the community;
    d). act as factors of change and of economic and social development;
2. To reform, for that purpose, the content and orientation of primary education with a view to ensuring that:
    a). the risk of the child being uprooted is reduced to minimum;
    b). the aim of the primary school is not only learning but preparation for life as well;
    c). the primary school inculcates in the child a respect and taste for manual work;
    d). the requisite attention is given to the possibility of using the national languages as languages of instruction and to determining the optimum age and the most effective methods for learning the first language of wide communication;
    e). primary education, in both rural and urban areas provides all the children with the same basic knowledge and offers them the same chances of continuing their education;
3. To improve the output of the primary education systems, in particular by reducing the enrollment wastage rates;
4. To provide for the continuous in-service training of the teachers;
5. To create rural-oriented primary teacher training institutions;

6. To reform the structures of primary education and post-primary education in accordance with the new objectives assigned to primary education;

7. To introduce adult education measures and the different educational activities which are needed to supplement the expansion and reform of primary education as part of rural and, more generally, social and economic development;

8. To make the necessary provisions for integrating primary school leavers in society;

9. To bring the school closer to the community and the community closer to the school;

10. To improve rural living conditions and to raise the prestige of the farmer, in order to prevent the school from accelerating the trend towards a rural exodus;

11. To convene, in consultation with ILO, UNESCO, FAO, ECA and OAU, National Commissions to study the means of introducing into the production circuit, and particular into the rural sector, pupils coming out of primary education and not going on to secondary education. These Commissions should examine the problems involved in the post-primary education and training which those concerned should be given and in finding employment for them later on;

12. To encourage greater coördination between the work of educational planners and of those responsible for economic and social development."

BE IT RESOLVED THAT

We the participants at the African Regional Seminar for Advanced Training in Systematic Curriculum Development and Evaluation, sponsored by IIEP in cooperation with ICO, SIDA, DSE, the Unesco Division of Structures and Content of Life-Long Education and the Unesco Regional Office for Education in Africa, held in Achimota, Ghana, 14 July - 15 August, 1975,

Having benefitted from this five-week experience, and realizing that the present situation whereby curriculum centres in Africa have been working in isolation is not desirable,

DO STRONGLY RECOMMEND the formation of an African Curriculum Organization to bring curriculum centres and curriculum specialists in Africa closer together for a cooperative attack on the problems of curriculum development, and for purposes of carrying out the following tasks, as well as others which may be identified later:

1. To promote the production and exchange of curriculum materials among curriculum centres in Africa.
2. To sponsor the joint training of curriculum specialists.
3. To encourage and promote joint research programmes as well as exchange of research information.
4. To set up task forces to carry out specific projects in curriculum development.
5. To establish a working relationship with similar organizations.
6. To assist countries who wish to set up curriculum centres where they do not exist and to strengthen those who already have.
7. To provide opportunities for exchange of curriculum specialists and personnel between countries.
8. To develop a Directory of personnel for consultancy work.

NOW AGREE to the setting up of a Planning Committee consisting of a Chairman and a Secretary together with one representative from each of the participating countries, such a Committee being charged with the responsibilities for planning and executing an appropriate programme which will culminate in the formation of such an organization.

And that a request be made to the forthcoming conference of African Ministers of Education in Lagos to approve the formation of this organization and give it due support.1)

Proposals of the Language Seminar Group

In addition to the recommendations for establishing an African Curriculum Organization, participants on the language seminar worked out a proposal for an Association for Language Teaching in Africa. This was as follows:

"In view of the importance of language in the process of curriculum development, we, the members of the language seminar group recommend the following for the attention of the main body of the participants and faculty of the African Regional Seminar for Advanced Training in Systematic Curriculum Development and Evaluation:

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1) It is encouraging to note that the German Foundation for International Development (DSE) has agreed to finance a planning meeting for the ACO in January 1976 at the International Centre for Educational Evaluation, University of Ibadan, Nigeria. At that meeting a detailed set of activities for the ACO will be worked out.

1. That participating countries commit themselves to the specification of a language policy, that where such a policy already exists, curriculum centres should make sure that the policy makes for maximum integration of language with other subject areas. Where curriculum centres are non-existent, participating countries should each establish one as a matter of urgency.
2. That the Seminar get the Conference of African Ministers of Education which is due to meet in Lagos in January 1976 to incept language reforms with a view to giving a more significant place to mother tongue learning/teaching in their educational systems.
3. That there be a follow-up to this Seminar. Any future seminars should, however, dwell on specific practical workshop/seminar themes such as reading and the development of instructional materials. Hopefully, in future seminars, emphasis shall be placed more on practical case studies, and instruments for the evaluation of the seminar shall give more scope for eliciting valuable practical information from participants.
4. That a Pan-African Organization be set up to cater for the needs of language teaching, just as other associations cater for other areas of knowledge. The name of the proposed organization shall be:

   The Association for Language Teaching in Africa (ALTA).

   The organization shall come under the umbrella of the proposed African Curriculum Organization (ACO).
5. Members of ALTA shall keep in touch with one another by:
   - exchanging materials from curriculum centres, and
   - exchanging information on an individual basis.
6. As a first step towards the formation of the Association, the Interim Committee of ACO shall consider setting up a task force specially charged with the responsibility for language teaching.
7. The participants unanimously nominate the following as members of the Interim Committee of the Association, who shall also represent them in any task force set up by the Planning Committee of the ACO:

- Dr A. Afolayan, Chairman
- Mr S. Elango, Secretary
- Dr C. Musisi, Member

8. Finally, the group empowers the Language Interim Committee to pursue independently the formation of their Association should ACO fail to materialize within 12 calendar months of the end of the African Regional Seminar.

III. Prologue to a Possible Francophone Seminar on Curriculum Development

1. Introduction

At the planning meeting for the African Regional Seminar held in February 1975, when strategies for follow-up actions to the Seminar were discussed, it was suggested that it might be possible to hold a similar seminar for the francophone African countries. In the letter from the IIEP inviting the author of this section to attend the Seminar in Accra, he was asked:

> "Through observation of the Seminar for the African English-speaking countries and discussions with the faculty and the participants, you could begin to map out a possible seminar on systematic curriculum development and evaluation for the African French-speaking countries."

This report refers to this assignment and contains some preliminary thoughts about the possibility of a French seminar.

2. Similar or different?

Many of those persons knowledgeable about francophone Africa with whom discussions were held expressed the opinion that the French seminar would have to be different. Why different, and how different? The question needs to be explored further. Can one say that the francophone countries do not have the same educational problems as their anglophone counterparts? Of course, it can be argued that no two countries, however close to each other, can have exactly the same problems in the educational field - or in any other field for that matter. However, by and large, present trends in education in Africa are fairly similar. Every African state has put a premium on education since achieving independence. In both English- and French-speaking countries, school enrollment figures have shown a remarkable increase over the period of the two development decades 1950 - 1970. The overall primary school figures have risen to nearly four times the previous figures and secondary school figures have reached up to seven times the previous figures. But as we know, this remarkable numerical expansion has only served to highlight the many defects and weaknesses of the educational system as expressed in the poor quality of the results, e.g. the alarming failure and drop-out rates. Thus the global figures show that only 32% of those enrolled in the primary schools were able to finish their primary sixth year (figures quoted at the Nairobi Conference, 1968). It has also served to underline the lack of relevance of formal education to the social and economic needs of the nations. In fact, quantitative expansion of the formal school system without profound qualitative changes is not in itself capable of solving the fundamental problem of providing a basic education for all.

At the other end of the scale, higher education establishments and universities have produced at enormous costs graduates in limited fields which have not always served the pressing needs for national development. The concept of national development has itself undergone a profound and radical change. No longer is it equated simply to 'modernization' whereby in an effort to 'catch up with rich countries', investments in both industry and agriculture have tended to flow into a small sector of sophisticated technologies calling for intensive education and training of a small elite working force. This may have had the effect of increasing the overall national income, but it has not always been accompanied by an equitable distribution of this income. It is becoming more and more evident that the concept of national development should include such elements as:

1. A sound employment policy.
2. A healthy management of the environment.
3. The participation of the less privileged in the programme of development.
4. A policy of social equity which ensures that a more equitable distribution of income is achieved together with an increase in national income.

To sum up, it seems clear that all countries in Africa are at various stages of searching for an effective educational system adapted to the needs of the people and geared to the greater and more embracing needs for national development. In fact all African states, whether English- or French-speaking, have the common aim of promoting education for national development, with the important corollary of education for rural development.

3. The differences

The ultimate aim may be the same, but the modalities and techniques for achieving this aim will be different. For in effecting the change or the reform, instruments and procedures must be used which are adapted to the existing structures, administrative or educational, and to the people who will be using them. We may perhaps list the main differences as follows.

a). Difference of approach

A more theoretical and rigorous approach may be expected. This does not exclude an experimental approach or even some pragmatic approach where necessary. For example, at the Brazzaville Conference on Environmental Science Education, May 1975, at the primary level, participants who came from eight francophone countries were involved in a number of practical sessions during which activity and teaching techniques were demonstrated. These had very little dogmatic content. The participants were all in favour of such methods. The seminar went on to recommend that a regional office of SEPA be set up in a francophone country in order to promote cooperation with the anglophone countries in the new approach to science education. We may note here that the baccalauréat courses followed by the eventual participants at a francophone seminar are more broadly based and more philosophically oriented than the corresponding English advanced level or higher school certificate courses.

b). Differences of educational and administrative structures

The more centralized systems operating in educational administration in francophone countries may necessitate different procedures. In fact, the system may facilitate large-scale implementation once it has been decided upon, but it may not lend itself readily to small-scale experimentation at the school or classroom level.

4. Experience gained at the African Regional Seminar

It is clear that the working pattern finally adopted for the Regional Seminar combines a number of advantages which would recommend it for adoption once more. We are referring here to the set of daily seminar activities, with their three components:

- course lectures
- subject seminars
- team work on a national basis.

The framework is loose enough to enable interaction to take place readily in free associations, if necessary. Occasionally, pleas were made by participants for more intensive training rather than lectures, but after the first week the value of the lectures began to be felt and appreciated by the majority of participants.

Every individual participant was constantly reminded of the fact that he belonged to three sets: the multi-national set formed by the totality of the participants, the subject set, and the national set.

The course lectures aptly expressed the functions of the larger set and discussions following on the lectures proved to be effective as a means of confronting viewpoints, comparing educational systems, learning about innovations and submitting ideas to general scrutiny. In spite of occasional impatient quips about the irrelevancies of certain contributions as compared to some heartfelt expressions (e.g. "at last we've got down to earth") hailing contributions seen to be particularly relevant to the African situation, it is not sure whether the diverse approaches exhibited in the lectures were not, in fact, an advantage, on balance. The subject seminars and team sessions were quickly seen to be the proper places for intensive functional and purposive training.

In these subject seminars the participants liaised with colleagues working in the same discipline in different countries. A case may be made for structuring these seminars more carefully so that they may carry out the three main functions for which they were seen to be best suited, viz.:

1. Providing a place where implications of issues raised at the course lecture can be discussed with reference to the subject.
2. Allowing the exchange of information and the elaboration of common policies relative to the discipline.
3. Providing resources and specialized training for the preparation of educational materials and for experimenting with innovations.

These three functions were not present to an equal degree during the whole duration of the Seminar. It became apparent that the first two assumed more importance during the first weeks, while the third function became increasingly important as the Seminar proceeded.

The team sessions placed the participant in the national context and reminded him constantly of the real issues existing in his country at the level of his professional work. The sessions acted as a stimulant for constructive work for the team as a whole. It is at this level that national follow-up ventures may be decided on and preparations started for their implications.

At the science seminars suggestions were made that practical sessions involving school children should have been organized. Also it was requested that teacher training techniques such as micro-teaching should be demonstrated.

5. Issues in francophone African countries

As we saw earlier, the problems in the educational field have led to a search for relevance and quality in the context of national development. To achieve these goals a number of desirable objectives must be specified. The list would include the following:

1. Increase the number of qualified teachers.
2. Improve teacher training.
3. Adapt school to environment, e.g. rural schools.
4. Improve teaching methods and techniques in order to reduce drop-out and failure rates.
5. Introduce primary school science via environmental studies.
6. Use the mother tongue at the primary school.

The wind of educational reform blowing over Africa is felt in the francophone states also. Reform plans have been drawn up and approved in many countries. They are in various stages of preparation, experimentation and, in some cases, implementation.

The following list, which is not exhaustive, is meant to give an idea of the range of approaches being tried in the various countries.

Cameroon

The IPAR (Institut Pédagogique Appliqué à vocation Rurale) has produced primary school materials which are being tried in 290 schools at present.

Dahomey

The integration of the village school into the community is being experimented on.

People's Republic of the Congo

"L'école du Peuple" aims at achieving 100% enrollment figures and works in partnership with national associations for the education and training of the citizen.

Central African Republic

"L'école de Promotion Collective" aims at giving some professional training to the young student so that he may contribute to the social and economic development of the country. The teacher is part of a team which includes farmers, craftsmen, village chief, etc. He makes contact with parents and tries to become integrated in the community. At present six such schools exist and ten more will be opened in October 1975.

Ivory Coast

The Educational Television Project which became operational in 1971 aims at providing school education for as many people as can be reached (100% by 1990 or 2000), introducing a new type of education and providing out-of-school informal education. The aim of the educational programmes is to stimulate students to play an active role in the learning situation. Evaluation is being carried out by an international team who publish documented results at regular intervals.

Senegal

"L'Enseignement Moyen Pratique" proposes to tackle the problem of the primary school leaver who cannot be accommodated in the existing general and technical secondary schools by the creation of special centres, both rural and urban, where practical courses are held. The originality of the project lies in the fact that the courses are designed and run in complete agreement and cooperation with village leaders, farmers and rural workers. The Langomack centre has been operating for two years and gives training to the youth, both schooled and unschooled, of 12 adjoining villages. Five more centres have been planned for 1975-1976, two rural and three urban.

6. Aims of the francophone seminar

The main aim would be to provide training in the principles and practice of systematic curriculum development and evaluation.

The lectures and seminars will be specially directed to the issues existing in the French-speaking countries, due regard being given to the administrative structure of the educational system and to the innovations already introduced.

The main course should deal with systematic curriculum development and evaluation (développement systématique et évaluation des programmes scolaires). Supporting topics must relate to problems of the adaptation of education to the needs of the learner on the one hand and to the social and economic needs of the nation on the other. A few suggestions are given below:

Psycho-pédagogie des élèves
Epistémologie génétique
Théories de l'apprentissage
Méthodologie et innovations pédagogiques
Technologie de l'éducation
L'utilisation de la langue maternelle
L'enseignement des sciences et de la technologie
L'éducation permanente
L'éducation en milieu rural
L'éducation et la formation professionnelle.

7. Preparatory plans

In preparing the seminar the following three areas will require attention by a planning committee.

1. A survey of the present state of research and applications in curriculum development and evaluation in the French-speaking African countries is necessary in order to identify the effective centres of curriculum development and to make contact with the national specialists engaged in active work. The educational projects in Cameroon, the Ivory Coast and Senegal will be specially useful in this connection. National specialists working on these projects may be asked to become contributors to the seminar.

2. The education authorities in the various countries should be consulted in order to ascertain how interested they are in the seminar. A copy of the report of the African Regional Seminar in Ghana with an accompanying letter may serve to establish a useful first contact.

3. On the international level, research institutions in curriculum development can provide French-speaking specialists in the field that interests us. The following countries and centres are obvious choices:

France:	INRDP and other institutes.
Switzerland:	The Piaget Institute, Geneva.
Belgium:	The Universities of Liège and Mons.
Canada and the United States.	

Two pan-African institutions may provide useful contacts with national specialists: SEPA in science education, and BASE in educational sciences.

The Science Education Programme for Africa (SEPA) which has its headquarters in Accra has succeeded in attracting a large number of African specialists in the field of science education and evaluation. Recently SEPA has decided to extend its services to the francophone African states.

The Bureau Africain des Sciences de l'Education (BASE) is a new research organization with headquarters at Kisangani (B.P. 14) in Zaire. Its main aim is to coordinate educational research in Africa. Over fifty educational institutions from African countries are affiliated to it. It plans to hold its first major conference in January 1976 at Kinshasa.

8. The nature of the seminar

How long the seminar should last depends to some extent on the amount of research material which exists in the field of curriculum development and evaluation in the French-speaking African countries. However, it is primarily a training seminar and so consideration must be given to the time required for effective learning and interaction. It is expected that the concepts and ideas discussed during the seminar will be new to a good proportion of the participants.

At the African Regional Seminar team work was emphasized. Individual participants' papers gained significance by becoming integrated into the more embracing team projects. These were referred to the national situation. One requirement therefore was that the teams had to be fairly representative of all aspects of the primary curriculum. Thus almost every national team consisted of at least six members in the respective fields: curriculum development, evaluation, science, mathematics, language, and social studies.

It may be that the suggested situation survey in the francophone countries will not show that such a complete representative approach is necessary or appropriate. In that case, the emphasis of the seminar can be laid on individual sensitization with national implications. This means that the number of participants from each country could be halved. With fewer participants, the training given could be more intensive, although the exchange and interaction may be the poorer.

Those asked to participate should be engaged in curriculum development and reform work at the ministry of education and at such institutions as IPN (Institut Pédagogique national), INSE (Institut national des Sciences de l'Education), and so on.

It is not envisaged that the French seminar could be held earlier than one year hence. July/August 1976 may be an early possibility. Possible venues are Dakar and Yaoundé.

APPENDICES

APPENDIX 1/A

Participants

Country	Name and institutional affiliation	Afternoon seminar attendance
Cameroon	S.N. Shu, Deputy Director for Primary Education, B.P. 1600, Yaoundé.	Curriculum Planning
	A.N. Boma, Director, IPAR, Buéa.	Curriculum Evaluation
	U.J. Divine, Assistant Director, IPAR, Buéa.	Science
	G.T. Ashuntantang, Assistant Director, IPAR, Buéa.	Social Studies
	J.T. Jajih, Assistant Director, IPAR, Buéa.	Language
	S. Elango, IPAR, P.O.Box 8, Buéa.	Language
	H. Bergmann, IPAR, P.O.Box 8, Buéa.	Curriculum Evaluation
Gambia	M. Fatty, Vice-Principal, Yundum College.	Curriculum Planning
	T. George, Lecturer, Yundum College.	Evaluation
	S.M. N'Jie, Gambia High School.	Science
	M. Lowe, Senior Assistant, Serrekunda School.	Social Studies
Ghana	Team A	
	E.K. Apetorgbor, Curriculum Div., Ghana Teaching Service, P.O. Box 2739, Accra.	Curriculum Planning
	R.A. Ntumi, Curriculum Div., Ghana Teaching Service, P.O.Box 2739, Accra.	Evaluation
	J. Kusi-Acheampong, Elementary Science Unit, P.O.Box M.188, Accra.	Science
	E.B. Dogbe, Curriculum Div., Ghana Teaching Service, P:O.Box 2739, Accra.	Mathematics
	E.K. Tamakloe, Curriculum Div., Ghana Teaching Service, P.O.Box 2739, Accra.	Social Studies
	J.K. Adu, Curriculum Div., Ghana Teaching Service, P.O.Box 2739, Accra.	Language
	Team B	
	Adu Gyamfi, Curriculum Div., Ghana Teaching Service, P.O.Box 2739, Accra.	Curriculum Planning

Country	Name and institutional affiliation	Afternoon seminar attendance
Ghana	S.K. Atakpa, Curriculum Div. Ghana Teaching Service, P.O.Box 2739, Accra.	Evaluation
	C.B. Nyavor, Elementary Science Unit, P.O.Box M.188, Accra.	Science
	C.K. Asong, Curriculum Div., Ghana Teaching Service, P.O.Box 2739, Accra.	Mathematics
	K.A. Dankwa, Curriculum Div., Ghana Teaching Service, P.O.Box 2739, Accra.	Social Studies
	P.K.A. Arthur, Curriculum Div. Ghana Teaching Service, P.O.Box 2739, Accra.	Language
Kenya	Gideon M. Kimote, Kenya Institute of Education, P.O.Box 30231, Nairobi.	Curriculum Planning
	Peter Mwathi, Kenya Institute of Education, P.O.Box 30231, Nairobi.	Evaluation
	Joyce Mucoki, Kenya Institute of Education, P.O.Box 30231, Nairobi.	Science
	Peter Kuria, Kenya Institute of Education, P.O.Box 30231, Nairobi.	Mathematics
	A. Waka, Kenya Institute of Education, P.O.Box 30231, Nairobi.	Social Studies
	Mary N. Gakunga, Kenya Institute of Education, P.O.Box 30231, Nairobi.	Language
Liberia	Josephine Greaves-Badio, Ministry of Education, P.O.Box 9012, Monrovia.	Curriculum Planning
	Moses Elliott, Liberian Testing Centre, Ministry of Education, Monrovia.	Evaluation
	Robert D. Coleman, Ministry of Education, P.O.Box 9012, Monrovia.	Science
	Lydia Zeo Caine, Asst.Director of Higher Education and Textbook Research, P.O.Box 2647, Monrovia.	Language
Malawi	B.A. Harawa, Lecturer in Education Chancellor College, University of Malawi, P.O.Box 280, Zombe.	Curriculum Planning
	P.H. Chiwona, Dean of the School of Education, University of Malawi, P.O.Box 280, Zombe.	Curriculum Evaluation

Appendix 1

Country	Name and institutional affiliation	Afternoon seminar attendance
Nigeria	Team A	
	J.M. Akintola, Educational Research Council, 6 Obanta Road, P.O.Box 8058, Lagos.	Curriculum Development
	M.O. Olasehinde, Department of Education, University of Ife, Ile-Ife.	Evaluation
	A.O. Onyekwere, East Central State School Board, P.M.B. 1160, Enugu.	Science
	M.S.C. Okoye, Ministry of Education, Enugu.	Mathematics
	M.A. Gwaram, In-Service Centre, Ministry of Education, P.M.B. 3113, Kano.	Social Studies,
	D.A. Oni, Divisional Education Office, Ijesha North, Ijeda, P.M.B. 5049, Ilesha.	Language
	Team B	
	A.I. Nuhu, c/o College of Arts, Science and Technology, P.M.B. 1061, Zaria.	Science
	A.O. Adeola, Advanced Teachers College, 1 Onitolo Road, Surulere, Lagos.	Mathematics
	P.E. Ugboma, College of Education, Abraka, Nigeria.	Language
	Team C	
	O.C. Nwana, Professor of Education, University of Nigeria, Nsukka.	Science
	S.O. Ogun, Principal Federal Inspector of Education, Federal Ministry of Education, Inspectorate Division, 59 Awolowo Road, S.W. Ikoyi, Lagos.	Mathematics
	O.D.M. Oguine, Federal Ministry of Education, 59 Awolowo Road, S.W. Ikoyi, Lagos.	Language
Sierra Leone	T.A. Lucan, Principal Education Officer, Institute of Education, Private Mail Bag, Tower Hill, Freetown.	Curriculum Planning
	S. T. Bundu, Curriculum Developt. Officer, Institute of Education, Private Mail Bag, Tower Hill, Freetown.	Science
	V.O.I. Johnson, Senior Research Fellow, Institute of Education, Private Mail Bag, Tower Hill, Freetown.	Evaluation
	E. Hyde, Curriculum Adviser for English, Institute of Education, Private Mail Bag, Tower Hill, Freetown.	Language

Country	Name and institutional affiliation	Afternoon seminar attendance
Tanzania	E.E. Moshi, Institute of Education, P.O.Box 35094, Dar es Salaam.	Curriculum Planning
	I.E. Nkya, Institute of Education, P.O.Box 35094, Dar es Salaam.	Evaluation
	P. Mlay, Institute of Education, P.O.Box 35094, Dar es Salaam.	Science
	W. Kwalazi, Institute of Education, P.O.Box 35094, Dar es Salaam.	Mathematics
	M.P. Nyagwaswa, Institute of Education, P.O.Box 35095, Dar es Salaam.	Language
Uganda	J. Kateeba, National Curriculum Development Centre, P.O.Box 7002, Kampala.	Curriculum Planning
	C. Kanyarusoke, National Curriculum Development Centre, P.O.Box 7002, Kampala.	Evaluation
	Pius M. Lugangira, National Curriculum Development Centre, P.O.Box 7002, Kampala.	Science
	Titus R.A.K. Balemesa, National Curriculum Development Centre, P.O.Box 7002, Kampala.	Mathematics
	D. Sentamu, National Curriculum Development Centre, P.O.Box 7002, Kampala.	Social Studies
	J. Okeju, National Curriculum Development Centre, P.O.Box 7002, Kampala.	Language
Zambia	K.A. Chali, Curriculum Development Centre, Ministry of Education, P.O.Box RW92, Lusaka.	Curriculum Planning
	Claudius D. Mkangaza, Curriculum Development Centre, Ministry of Education, P.O.Box RW92, Lusaka.	Evaluation
	K.E. Muneku, Curriculum Development Centre, Ministry of Education, P.O.Box RW92, Lusaka.	Mathematics
Swaziland	L.B. Lukhele, Director of Primary Curriculum Unit, Manzini.	Curriculum Planning

APPENDIX 1/B

List of Faculty

Name	**Institutional affiliation**	**Contribution to the seminar**
A.F. Menka	Director, Curriculum Research and Development Division, Ghana Teaching Service, P.O.Box 2739, Accra, Ghana.	Seminar Director. Co-ordinator of Curriculum Planning and Development Course lecturer. Leader of Curriculum Planning Seminar.
A. Afolayan	Senior Lecturer, University of Ife, Ile-Ife, Nigeria.	Leader of Language Seminar. Lecturer on Language Policy.
C.O. Agbenyega	Special Assistant to the Commissioners for Education and Culture, P.O.Box 125, Accra, Ghana.	Curriculum Evaluation Seminar consultant.
K. Asiedu-Akrofi	Dean of the Faculty of Education, University of Cape Coast, Ghana.	Social Studies Seminar consultant.
A.M.K. Bagunywa	Director of National Curriculum Development Centre, P.O.Box 7002, Kampala, Uganda.	Co-ordinator of Teacher Training Course; lecturer; Language Seminar consultant.
M. Blaug	Professor of Economics of Education, University of London Institute of Education, 55 Gordon Square, London WC1HONT, England.	Lecturer on Social, Economic and Individual Change course.
W.K. Blege	Headmaster of Mawuli School, P.O.Box 45, Ho, Ghana.	Social Studies Seminar leader.
B.S. Bloom	Distinguished Service Professor of Education, University of Chicago, 5835 Kimbark Avenue, Chicago, Ill.60637, U.S.A.	Co-ordinator of Educational Technology course; lecturer.
D.E.B. Chaytor	Professor of Zoology, Director of Teacher Education Programme, Fourah Bay College, Freetown, Sierra Leone.	Science Seminar consultant.
H. Dyasi	Executive Secretary of SEPA, Ghana, P.O. Box M 180, Accra, Ghana.	Science Seminar consultant.
W. Falayajo	Senior Research Fellow, Institute of Education, University of Ibadan, Ibadan, Nigeria.	Curriculum Evaluation Seminar consultant.
J.S. Jackson	Senior Lecturer, Department of Mathematics, University of Ghana, Legon, Ghana.	Mathematics Seminar consultant.
E.M. Mugiri	Deputy Director, Institute of Education, P.O.Box 30231, Nairobi, Kenya.	Science Seminar leader.

Name	Institutional affiliation	Contribution to the seminar
Ch. Musisi	Senior Specialist, National Curriculum Development Centre, P.O.Box 7002, Kampala, Uganda.	Language Seminar consultant.
O.C. Nwana	Professor of Education and Director of the Curriculum Development and Instructional Materials Centre, Faculty of Education, University of Nigeria, Nsukka, Nigeria.	Science Seminar consultant.
R.O. Ohuche	Associate Professor of Mathematics Education and Head of the Department of Secondary Education, University of Liberia, Monrovia, Liberia.	Mathematics Seminar leader. Lecturer in Teaching Training Course.
P.O. Okunrotifa	Senior Lecturer, Department of Education, University of Ibadan, Ibadan, Nigeria.	Lecturer on Educational Technology Course.
I.M. Omari	Lecturer in Education and Psychology, University of Dar es Salaam, Tanzania.	Lecturer on Social, Economic and Individual Change Course.
R.W. Tyler	Faculty Director of the Centre for Advanced Study in the Behavioural Sciences at Stanford, California, Science Res.Assoc. Inc., 259 East Erie Street, Chicago, Ill.60611, U.S.A.	Lecturer on Curriculum Planning and Development course.
E.N.E. Udoh	Lecturer in Sociology, Institute of Education, Ahmadu Bello University, Zaria, Nigeria.	Social Studies Seminar consultant.
G.A. Williams	Association Professor, University of Lagos, Lagos, Nigeria.	Lecturer on Teaching Training Course. Mathematics Seminar consultant.
Ch. Wulf	Senior Researcher, German Institute for International Educational Research, 6000 Frankfurt am Main - 90, Schlosstrasse 29, FRG.	Lecturer on Social, Economic and Individual Change Course.
E.A. Yoloye	Professor of Education and Director, International Centre for Educational Evaluation, University of Ibadan, Ibadan, Nigeria.	Co-ordinator of Curriculum Evaluation Course. Lecturer. Curriculum Evaluation Seminar leader.

APPENDIX 1/C

List of personnel of Unesco, sponsoring and participating agencies

Name	Institutional affiliation	Contribution to the seminar
E. Ballér	Principal Education Officer, Ministry of Education, Budapest, Hungary.	Lecturer on Curriculum Planning and Development Course. Consultant.
M. Bauer	Head of the Educational Planning Section, Education and Science Branch, German Foundation for International Development, 53 Bonn 1, Simrockstrasse 1, FRG.	Lecturer in Curriculum Evaluation Course. Curriculum Evaluation Seminar consultant.
R.H. Dave	Technical Director, Unesco Institute for Education, 2 Hamburg, 13, Feldbrunnenstrasse 70, FRG.	Lecturer on Social, Economic and Individual Change Course and on Curriculum Planning and Development Course. Curriculum Planning and Development Seminar consultant.
H. Dieuzeide	Director, Division of Methods, Materials and Techniques of Education, Unesco.	Lecturer on Educational Technology Course.
R. Malmberg	Principal Education Officer, National Board of Education, Skolöverstyrelsen, Handverkaragatan, 104 22 Stockholm, Sweden. SIDA consultant.	Observer
A.D. Mengot	Deputy Director, Unesco Regional Office for Education in Africa, B.P. 3311, Dakar, Senegal.	Lecturer on Curriculum Planning and Development Course. Curriculum Planning and Development Seminar consultant. Co-ordinator of follow-up activities.
U. Niemann	Ministry of Economic Co-operation, 53 Bonn, Karl Marx Allee 114-116, FRG.	Observer
P. Nalletamby	Regional Adviser in Science and Education, Unesco Regional Office for Education in Africa, B.P. 3311, Dakar, Senegal.	Science Seminar consultant. Co-ordinator of follow-up activities in francophone Africa.
R. Ochs	Director, Division of Structures and Content of Life-long Education, Unesco.	Observer, consultant, lecturer in life-long education.
T.N.Postlethwaite	Associate staff member at the International Institute for Education Planning (Unesco), 9 rue E. Delacroix, Paris 16.	Co-ordinator of Social, Economic and Individual Change Course. Lecturer on Curriculum Planning and Development Course and in Social, Economic and Individual Change Course. Curriculum Evaluation Seminar consultant.

Name	Institutional affiliation	Contribution to the seminar
O. von Schott	Ministry of Economic Co-operation 53 Bonn, Karl Marx Allee 114-116, FRG.	Observer
H.W. Weiler	Director of the International Institute for Educational Planning (Unesco), 9 rue E. Delacroix, Paris 16.	Lecturer on Social, Economic and Individual Change Course.

APPENDIX 1/D

List of observers

Name	Institutional affiliation
A.B. Abu Samah	Director of National Curriculum Development Centre, Ministry of Education, 2.1/2 Mile Damansara Road, Kuala Lumpur, Malaysia.
D.O. Kolawole	Head of Division of Primary Education, Institute of Education, Ahmadu Bello University, P.M.B. 1048, Zaria, Nigeria.
E.O. Onifade	Chief Education Officer, Ministry of Education, North Western State, Sokoto, Nigeria.

APPENDIX 2

AN ADDRESS DELIVERED BY COL. E.O. NYANTE
COMMISSIONER FOR EDUCATION AND CULTURE
AT THE OPENING OF THE AFRICAN REGIONAL
SEMINAR FOR ADVANCED TRAINING IN
SYSTEMATIC CURRICULUM DEVELOPMENT
AND EVALUATION AT GREENHILL ON
14 JULY 1975

Your Excellencies, Distinguished Guests, Ladies and Gentlemen,

It gives me very great pleasure to be here with you this morning and to open this important international seminar. It must indeed be an important gathering, otherwise many of you would certainly not have made the time to travel the vast distances you have had to cover to be here in Accra. On behalf of the Government of Ghana, and on behalf of my own Ministry, I sincerely welcome all of you who have travelled from far and near to Ghana. I hope you will find your stay in this country a pleasant one in spite of the very hard work that I expect you to do.

I am told that the basic objective of this seminar is to provide high-level personnel training for specially selected staff from participating curriculum centres from the African region. I must congratulate your planning committee on the good job done in selecting the Ghana Institute of Management and Public Administration (GIMPA) as the venue for the seminar. Here at Greenhill, the setting is just right and the facilities available are just the sort of things you require for your purpose. You will find that even the weather is only moderately warm and certainly not as hot as you will feel in down-town Accra.

I have also learnt that the organizers of the seminar have been able to secure the services of some of the most distinguished authorities in the fields of curriculum planning and educational evaluation. One can, therefore, conclude that the groundwork has been carefully done for what should be a successful seminar. Given the facilities provided and the faculty assembled, the only other factor remaining to make a real success of the seminar is serious application of yourselves, i.e. the participants in particular, to the important task that you have gathered here to carry out.

Talking of diligent application of yourselves to the task ahead of you brings me to a close analysis of your work here during the next five weeks. Judging from the theme of the seminar, you will obviously be concerned with such age-old issues like: what things should we teach our children in school, and how best do we teach these things to achieve maximum results? You will be reviewing the state of the art in your special fields.

Obviously, the determination of national educational objectives is rightly the business of individual governments and countries. It is, however, one thing determining national educational objectives. It is quite a different thing ensuring that what is taught in the schools is such as to help attain these objectives. It is here that your work as curriculum specialists becomes important. Most of the dissatisfaction one hears constantly expressed about educational systems is at bottom a dissatisfaction with the irrelevance of most of the curricula to national needs. The governments of your countries, therefore, rely on you, the specialists, to determine the specifications and content of curricula material which are relevant to your needs. In providing this service, you must constantly tailor your proposals to the real down-to-earth conditions and aspirations of your countries.

During a seminar like this, one would expect you not only to improve upon your old skills but also to increase the stock of skills that you already have. At the end of the seminar, you should be in a position to re-dedicate yourselves to the course for which you have been toiling for some time now. The fact that you come from about a dozen different curriculum centres in Africa means that you have the opportunity to exchange ideas on subjects of common interest. Although you come from different countries and speak different languages, you are, first and foremost, Africans who are trying to provide for African needs. I am sure most of the curriculum centres in Africa are faced with common problems pertaining to large classes, lack of qualified teachers, shortage of suitably graded materials which are of interest to pupils, poor accommodation and so on.

To provide basic education for all children of school-going age is no small job. But this is what most African countries are aiming at now, because basic education has become a basic need everywhere, even in the developing countries of the world. I charge you, therefore, to make the best use of your stay here so that you can go back with renewed enthusiasm and inspiration to improve the curricula offerings which you are called upon to provide for the schools in your individual countries.

Here in Ghana, we have started to make a determined effort to tackle the problem of suitable textbooks for pupils at all levels of the pre-university cycle. This has become crucial in view of changes that we are introducing in both the content and structure of education between now and the end of the decade. As a result of these changes, completely new curricula have to be devised for subjects, especially in the technical and vocational areas, while at the same time changing the orientation and approach in the curricula of older established subjects. To this end, we have identified suitable classroom teachers, university lecturers, educational administrators, curriculum specialists and even former education officers, now retired, whom we consider capable of producing manuscripts suitable for publication and use as textbooks. These people are brought together at residential workshops, for a few weeks at a time, where they work together to produce the manuscripts required. We expect the first set of books from this project to be available to the schools as from September when the new school year begins. Sometimes, it becomes necessary to take the bull by the horns, and this is exactly what we are doing through this project of producing our own textbooks, copyright of which is to be retained by the Ministry of Education.

One thing that has bothered me in connexion with this project is the seemingly long time that the curriculum cycle takes to make a complete revolution. To me, the time taken between the determination of curricula objectives and the implementation of new curricula is unduly too long. Something should be done to reduce the time factor. Do we need to, or better still, can we in Africa today really afford the luxury of two to three years' trial-testing of new materials before we can feed them into the school system on a national scale? We in Ghana certainly cannot afford that length of gestation period. As I have indicated, we have less than five years in which to produce new curricula, not only for the primary, junior secondary and senior secondary levels, but also for the new scheme of teacher training we are introducing. Time is not on our side. We need to catch up in Africa, and very fast too. Perhaps you can devote some time during this seminar to consider this issue of finding ways to shorten the curriculum cycle.

Your Excellencies, Ladies and Gentlemen, I am sure this seminar could not have been made possible without the generous help of some funding organizations. I believe that all the African countries represented here will wish to join with me in expressing our sincere thanks to all those who have helped to make the seminar possible. I would like to thank particularly the Swedish International Development Authority and the German Foundation for International Development for providing the bulk of the fund for running the seminar. I must also express our thanks to the International Institute for Educational Planning, the International Curriculum Organization, the Unesco Division of Structures and Content of Life-long Education and the Unesco Regional Office for Education in Africa for organizing the seminar.

In conclusion, Ladies and Gentlemen, even though I have charged you to work diligently during the seminar, I trust that you will find time to relax at the appropriate time during your stay here at Greenhill. You should be able to go down to town to see something of Accra. Provision has been made to entertain you and to take you out to see something of our countryside. Do enjoy yourselves while you are here.

Finally, Your Excellencies, Distinguished Guests, Ladies and Gentlemen, it is my great pleasure to declare open the African Regional Seminar for Advanced Training in Systematic Curriculum Development and Evaluation.

Thank you.

APPENDIX 3

Dr. A.D. Mengot:

AN OVERVIEW OF THE PROBLEMS AND ISSUES FACING AFRICAN COUNTRIES IN CURRICULUM DEVELOPMENT[*]

The past two decades have set a record for activity in the area of curriculum change. At no time before in history have so many people in the world been engaged in so many projects aimed at altering what is taught in the schools and how it is taught.[1] The release of so many areas of the world from colonial control resulting in the rise of new nation states envisioning a new emphasis on their own national history and character, a new socio-economic structure, universal education and broad-scale welfare measures; the unprecedented expansion of knowledge; the increased pace of technological expansion causing shifts in job structures and necessitating curriculum innovation; the rapid growth of the world's population generating the demand for new approaches to educational administration and the instruction of large numbers of pupils and students; competition among nations vying for technological and industrial supremacy has led to the revision of science and technical curricula, and shifts in the political control of a nation or community has often brought about changes in what the schools are to teach.

In Africa, the trend is somehow different. Despite their emergence from colonial rule, and despite the recommendation of the Addis Ababa Conference of African Ministers of Education (1961) that "African educational authorities should revise and reform the content of education in the areas of the curricula, textbooks and methods, so as to take account of African environment, child development, cultural heritage and the demands of technological progress and economic development, especially industrialization", African Governments did not accord curriculum development priority in educational development.

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[*] This is an abridged version of the paper that was presented at the opening of the Seminar on 14 July 1975. The opinions expressed here are those of the author and do not necessarily reflect the view of Unesco.

[1] Thomas, Sands and Brubaker, Strategies for curriculum change: cases for 13 nations, page 1.

For all African nations emerging from colonial rule, the most pressing preoccupations were:

(a) The creation of cohesive nations out of many geographical entities made up of different and often rival ethnic groups with divergent social values as well as the creation and organization of political and administrative machinery for the proper functioning of the State.

(b) The expansion of the educational system inherited from the colonial period in order to cope with the dire need for personnel at all levels to set up new national structures and to ensure economic and social development and respond to the justifiable aspirations of their citizens to see their children acquire modern knowledge considered essential for social advancement. Thus the passionate desire of common men and women to give their children a better chance in life gave the demand for education its explosive quality, and made of it a political force that no democratic government could long resist.

Thus, in the last decade and a half, schooling at all levels in most of English-speaking Africa, from Sierra Leone on the west coast in to Kenya in the east, has multiplied anywhere from twofold to sevenfold. It should come as no surprise that in countries less than a generation into independence, schools are not always adequate, that teachers - even those with rudimentary qualifications - are in short supply, that governments which spend as much as 35 percent of their revenues on education cannot find a classroom for every child, yet people call for more education.

But at the very time when education is reaching out to all levels of society, there is real anxiety that it may be misdirected. Fundamental questions are being asked about the nature and rôle of education. What future does it hold out to the individual? What kind of society does it mold? How does it foster national development?[1]

There is no doubt that the rapid linear expansion of the school system fulfilled a vital function - the provision of trained manpower necessary to sustain the imperatives of political independence and nation building, but with the passing of the years it has become evident that much of the expansion has been misdirected. The results are seen in one of the most disturbing paradoxes of our time: while many people from among the educated are unemployed, there are several jobs waiting to be done because people with the right education, training and skills cannot be found.

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1. Carnegie Quarterly: Vol.XXIII, No.1, Winter issue 1975, pp.1,2.

Appendix 3

The intractable problem of the unemployed school-leavers deserting the rural areas for the townships has generated the demand for the reform of the school curriculum. Many countries have carried out reviews of their educational systems and some have made quite remarkable achievements in the reform of the curricula to make education relevant to their societies. But there are many problems that must be resolved. Let us examine some of these problems.

Some major problems facing African countries in curriculum development

An educational system may be regarded as effective to the extent to which it accommodates all children of school age; satisfies their own and their parents' aspirations; trains workers in accordance with the quantitative and qualitative needs of economic development; and imparts instruction conforming to an accepted social model and to the traditional cultural and spiritual values, while at the same time meeting the needs for human transformation inherent in any social change. This is what may be called the external effectiveness of an educational system. It is precisely because the educational systems of the different African countries have not met this criteria of 'external effectiveness' that there is increasing scepticism that investment in education is not producing the desired results. In order to remedy this situation efforts are being made to reform the educational systems. Those charged with responsibility for the reform are facing considerable difficulties. A study of the problems the African curriculum centres and persons responsible for current development are facing reveals the following:

1. All the countries are facing staggering economic and social problems. Of the countries in the region, only Nigeria and Gabon belong to the Organization of Petroleum Exporting Countries (OPEC). With the exception of oil-rich Nigeria, which exudes an almost palpable sense of energy, most African nations must brave the task of redirecting their educational systems under condition decidedly less favourable than those which existed at the time of independence. Population growth offers one salient illustration. In countries where Africans 15 years old and under account for 40 percent and sometimes 50 percent of the population, the birth rate is threatening to overtake school expansion. Uncontrolled inflation, still another problem, is eating up hard-won economic advances in many countries. Overriding all have been the devastations of drought and world-wide food scarcities. It would seem as if nature and history have conspired to force these young

nations to run ever faster in order to stay in place. Facing pressures on so many fronts and facing them virtually alone, they are not allowed the trial and error that have enabled more developed nations to evolve and reform their educational systems over time.[1]

2. There are financial constraints. The magnitude of the financial constraints was highlighted during the African Ministers of Education Conference on Education and Scientific and Technical Training in Relation to Development in Africa (Nairobi, 16 to 27 July 1968). The preamble to Resolution 1 stated, inter alia:

> "The expenditures on education of most African States represent a very high proportion of their national budgets and incomes and that in present circumstances it would be difficult to exceed those percentages without endangering the entire economic and social development of those countries."

The problems created by these financial constraints are:

- the non-existence of curriculum development centres in some of the countries.
- the creation of 'ad hoc' committees which meet in a rather informal manner to discuss problems of educational reform and curriculum development.
- lack of adequate accommodation for the curriculum centres.
- lack of financial resources renders the regular and active participation of headmasters, teachers and inspectors in the preparation of educational materials difficult.
- lack of suitable textbooks and equipment to support the educational objectives, content and methods of teaching.
- lack of adequate transport for regular contact with teachers and schools, particularly those schools in the rural areas which need supervision and guidance.
- the quality of research and evaluation of programmes and projects depends considerably on the availability of resources.

3. There is the problem of teachers. Education is big business. In many African countries expenditure on education takes as much as 25 percent to 30 percent of the government recurrent budget. In many countries, education is also the largest employer of educated manpower. The efficient use of these substantial inputs depends upon the quality of teachers in the system and the programme for teacher education. If education is to develop

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[1] Carnegie Quarterly, op.cit., p.2.

and respond to the needs of rapidly changing societies, then teacher educators must anticipate the trends and devise new and flexible systems of pre-service and in-service training. But it should be remembered that the availability of sufficiently qualified and efficient teachers to support curriculum reform, is not in itself the solution to educational reform in Africa. In many African countries there is the 'teacher problem'. Briefly stated, the 'teacher problem' in Africa is how to raise the low morale of an under-paid 'corps of teachers' - a body of men and women much in deuard and highly valued by parents for the education of their children but whose status is far below that of the civil servants. In order to remove the malaise in the teaching profession some African countries (e.g. Tanzania and Ghana) have created a 'unified teaching service' for all teachers in the country and undertaken a review of the salaries and conditions of service of teachers in the national interest and in conformity with principles of 'social justice'.

4. Many curriculum centres are of recent creation and some countries have no curriculum centres at all.

(a) Liberia: Liberia established a curriculum materials centre in 1961. The centre is responsible for all activities in curriculum development, in-service training of teachers and the production and distribution of instructional materials.

(b) Nigeria: the Nigerian Education Research Council (NERC) which in a Federal setup is the central co-ordinating body in the curriculum development efforts of the States, was set up in 1965, but it was only in 1969 that the 'need to review the curricula in schools and colleges in Nigeria' was amply discussed and adapted by the curriculum conference. The NERC has through national workshops developed new curricula for primary schools (1971) and Grade II teachers' colleges (1972). It has also produced secondary school curricula.

(c) Cameroon: the IPAR (Institut de Pédagogie Appliquée à vocation rurale) was established as a UNDP/Unesco/Unicef project in 1967 for primary school reform in the franophone zone of Cameroon, while the IPAR Buéa created in 1973 is concerned with primary education in the anglophone zone. The National Institute of Education (NIE) co-ordinates and is charged with the reform of the entire school system.

(d) Ghana: the Curriculum Research and Development Division of the Ghana Teaching Service was set up in 1967. It was partly due to the impact that the division had had on educators, administrators, supervisors, teachers and parents that the Ministry of Education in March 1972 submitted proposals on a new structure and content of education for public discussion. This eventually led to the appointment of a committee to consider the Ministry's proposals and the reactions of the public to these proposals. The final version of the "New Structure and Content of Pre-University Education" was published in February 1974.

(e) Kenya: curriculum development is the responsibility of the Kenya Institute of Education which was established by an Act of Parliament in 1968. It is responsible to the Ministry of Education through an advisory council. The function of the Institute also includes the setting, marking, moderating, etc. of various examinations which are conducted in the country.

(f) Sierra Leone: the Curriculum Revision Unit (CRU) was established in 1970 to implement the requirements of the agreement between the Sierra Leone Government and the International Development Association (IDA), develops curricula in English, Mathematics, Science and Social Studies.

(g) Tanzania: curriculum development in Tanzania dates from the creation of the Institute of Education in 1966 in what was then the University College of Dar es Salaam. In 1967, subject panels were established within the Institute. In 1969 when "Education for Self Reliance" became the official guiding educational philosophy, the inspectorate in the Ministry of Education was abolished and was replaced by a Curriculum Development and Examinations Sector. In 1972, the University Act was amended so that the Curriculum Development Section and the Institute were amalgamated to ensure effective curriculum development.

(h) Uganda: the National Curriculum Development Centre was established by Presidential Decree in March 1973, as a result of the recommendations of the Uganda National Conference of 1973. Systematic work and planning led to the holding of the second Annual Curriculum Conference (the Paraa Conference) in 1974. This conference defined the structure of the education system.

(i) Swaziland: the Primary Curriculum Unit (PCU) was established in January 1974. At present it is concentrating principally on the development of the primary school curriculum.course contents, now completed and approved by the Ministry of Education. Design and preparation of materials for pre-service and in-service training of teachers is also being undertaken.

(j) Zambia: curriculum development in Zambia is a specialized official arm of the Ministry of Education which produces curriculum materials for schools in Zambia with emphasis on primary school courses. The centre comprises the following departments: Primary - English, Zambian languages, mathematics, social studies, environmental science, homecraft, practical subjects, music and religious education; Secondary - history and French. The evaluation department is a servicing unit for the entire system.

5. All these newly established centres have not acquired the experience and expertise which only come with many years of problem-solving research, evaluation and co-ordination of the activities of all the 'educative agencies' in a country in order to create 'learning systems' which are the outcome of the examination of all available or potential learning services in combination, be they formal, non-formal or informal.

6. Majority of the centres lack the trained personnel in the field of curriculum development and evaluation and in the various disciplines of the school system at all levels to the extent that some centres have to depend on the service of expatriates made available through bilateral, technical aid or United Nations Specialized Agencies. In some of the centres these expatriates have no national counterparts to ensure continuity of the project after their departure. In some countries frequent changes of personnel within the Ministry of Education makes for lack of continuity in curriculum development in many centres.

7. Many national curriculum planners in the region are working in 'virtual isolation' of what their colleagues in other countries are doing in techniques of curriculum development and evaluation, specialized disciplines and research and the preparation of textbooks and other educational materials.

8. Examinations. The Moscow Seminar (Moscow, USSR, 16 to 23 January 1968) drew attention to the fact that instruction and evaluation are integrally related to each other; that testing and evaluation procedures produce a decisive influence on practically all aspects of curriculum. Defective examination systems can, therefore, produce damaging influence on good curriculum plans and can even nullify some of the most significant objectives of general education at the level of actual teaching and learning. On the other hand, well planned evaluation of programmes may prove immensely helpful in maintaining and improving standards of general education. This raises the critical issues of the rôle of formal terminal and annual examinations and particularly the rôle of external examinations in schools and the curriculum development efforts in African countries.

9. A notable feature of the curriculum 'reform movement' is that in almost

all the countries in the region the reviews of the educational system were carried out after the curriculum centres had long been established, so that from the onset the centres had no clearly defined educational objectives to guide them in preparing the new curriculum.

Conclusion

All over Africa, political leaders have come to the conclusion that education must be seen in the total context of development. We have examined the concept of development. But many understanding the concept of development does not resolve the rôle of education in economic development. In all efforts aimed at the reform of the school curricula in order to make schools more relevant to the aspirations of the people and the attainment of national development objectives, it must be clearly understood and appreciated that "development is not only characterized by the growth of production and income; it is also closely linked with, and necessitates the evolution and transformation of economic and social structures. The combination of these factors results from the will for change, which itself is associated with the resolve of the governments in power and the mobilization of national efforts".[1] 'Political will' is not at all a new concept in the symbiotic relationship between education and politics. Nicolas Hans, writing more than a quarter of a century ago observed that "Educational reforms since the First World War are so intimately connected with politics, with problems of race, nationality, language and religious and social ideals that they cease to be of narrow professional significance and have become a matter of general interest as the main problem of democratic government".[2]

The Hon. Michael Manley, Prime Minister of Jamaica, in his keynote address delivered to the Sixth Commonwealth Education Conference confirmed Nicolas Hans' view about the relation between education and politics when he said, inter alia, "The truth is that education is always an extension of political purpose and must be seen as a primary, perhaps the primary, agent that is available to that purpose. Let me emphasize that by political, I do not mean partisan political; I am referring to the process by which long- and short-term objectives and goals are set by the society itself based on

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1. Education in a rural environment (Unesco, Paris, 1974), p.11.
2. Nicolas Hans, Comparative Education (London, Routledge & Kegan Paul), preface to 1947 edition.

some notion of what is good for the particular society. In élitist societies, the political function of education has always been implicit, although the process is seldom admitted. In authoritarian or single-party societies, the political relevance of education is understood to be impatient of debate. In democratic societies of the multi-party model, the problem is more difficult. This arises because political purpose in the sense of the broad objectives which the society is organized to pursue are often confused with electoral advantage which the political party is organized to seek. However, even in the multi-party situation, the central truth remains that education is a political agent because it must, in its very nature, either tend to preserve the *status quo* or promote change, depending on how it is organized, who organizes it and the purpose to which it is put."[1]

Curriculum development is a sensitive issue which reflects the national priorities of each country in their socio-economic and cultural aspirations.

No one advocates any particular philosophy or approach to curriculum development but there are general principles which are fundamental to curriculum development. At national level, curriculum development "must take place internally, and the diverse situation and needs of different countries must be taken into account in order to avoid the mistake of imposing on them ways of thinking and types of analysis which may be foreign to them".[2] This, however, does not mean that there is no room for 'inter-regional co-operation'. Take science as an example. As far as the science curriculum development and methodology are concerned, Africa (and particularly 'anglophone Africa') should be proud of the imaginative and innovative work of the Science Education Programme for Africa (SEPA) in publishing suitable educational materials, in organizing workshops and seminars and above all in being able to provide an international forum for the exchange of ideas and experience among African intellectuals in the field of science for service to Africa.

SEPA's methodology transcends national interests and its example can profitably be emulated by African specialists in other disciplines supported by African governments and foreign donors.

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1. Michael Manley, "Keynote address to the Sixth Commonwealth Education Conference", Kingston, Jamaica, 10-22 June.

2. Amadou-Mahtar M'Bow, "Democratization, regeneration and life-long education", in Unesco *Chronicle*, July-August 1974, Vol.XX, No.7-8.

In operational terms, therefore, each country, taking into consideration the type of soceity it wishes to create, what is necessary to sustain that society, its development needs, its resources, and the state of its social institutions, has to work out its own procedures for making the necessary changes and to decide at what rate to apply them. In other words, what can be done depends, in the final analysis, on national initiative and capability.

APPENDIX 4

CLOSING ADDRESS GIVEN BY PROF. N.O. ANIM, DIRECTOR-GENERAL OF THE GHANA TEACHING SERVICE, ON 15 AUGUST 1975

Distinguished Guests, Fellow Educators, Ladies and Gentlemen,

I am happy to have the opportunity of participating in the closing ceremony of this important African Regional Seminar for Advanced Training in Systematic Curriculum Development and Evaluation. Apart from a brief unannounced visit that I made to GIMPA early this week, it was not possible for me to visit the seminar and sit in at some of your discussions. However much I would have liked to do so, the demands on my time did not just make it possible for me to be with you. I have, however, been following your progress and I believe that your time here has been quite well spent.

To me this must have been a rare opportunity for key professional people in African education to come together for as long as five weeks in one African country. Your living together in a rather secluded and quiet place like GIMPA must have generated discussions and exchange of views relating to education in Africa today. After all educational policies may be made and announced by Ministers of Education. But who advises on these politices and prepares the draft policy documents? It is the professional educators of your calibre and grade who mould these policies and it is the educational executives of your grade and standing who are responsible for directing the implementation of these policies. There is a lot of truth in the view that governments make policy statements but the policies are made by public servants. This is why I regard your coming together for so long as a rare opportunity to raise issues that have been engaging your attention in your separate countries. I am pretty sure that many of you must have been mildly surprised to discover that many of what you regard as your national problems are not in any way peculiar to your individual countries only. Large numbers of children seeking basic education, shortage of adequate school accommodation, insufficient supply of qualified and experienced teachers, especially in science and mathematics, and above all, inadequate supply of African oriented school textbooks and other supporting materials are some of the current educational problems in Africa which have no respect for political boundaries. Since these common problems have no care for political boundaries, why should we educators, who are faced with these difficulties, not pull our ideas together, compare notes from time to time to regain strength and devise strategies in tackling these difficulties? These are the sort of things, I believe, your coming together, as you have done at GIMPA, has enabled you to do.

Since the end of the Second World War, which ushered in political emancipation of colonial countries in Africa, the need for widespread education has remained a top priority desire of most, if not all, former colonial countries. The guiding principal, since independence in many of our countries, has therefore been to provide basic education for as many of our children as our resources can allow us to do. The result of this policy is the large increase in the number of primary school leavers in many of our countries. Of course, everyone of our children is entitled to some education and so a policy aimed at universal education is certainly a worthy objective. The fact that this policy has now created a serious educational problem of demand and supply of secondary school places in many African countries is only natural. The straight answer to this situation is to expand secondary school places as fast as our resources can permit. The important question, as I see it, and as many people are now asking, is what kind of education, what quality of education, should we be offering in our educational institutions?

I know you have talked at length on questions like what kinds of educational objectives should our schools pursue? what learning experiences to offer? how to organize these learning experiences? and how best to evaluate the curricula offered in our institutions? Here, I am only underscoring the fact that the consumers of our curricula offering, i.e. parents and students, are demanding quality of education now and not just quantity of school places. I am tempted to say that quality education should correlate pretty well with quality of curricula offerings provided by the curriculum planners. I am aware of the effects of the variables in pre-school experiences and home background factors.

I have also not forgotten the important rôle that the classroom teacher must play to translate the curriculum into action. It is very important, however, to remind you, as curriculum people, that you who work in curriculum centres hold a key position in the educational systems of your countries. The course content offered in the programmes that go into our schools, the materials developed for use by pupils and teachers and the very methods you suggest to the teachers go to form what I regard as the marrow of the educational enterprise. This is the message I would like you to take home with you. Without the marrow we shall be administering and inspecting only dead bones and rotten flesh in all our endeavours in the educational enterprise. We cannot but rely very heavily on our curriculum centres for effective classroom results. I am sure you will not let the system down in your various countries.

I have been informed that action is in train to establish an African Curriculum Organization to provide a forum for exchange of views and materials and to perform other functions. Hopefully, this should provide a useful international umbrella for various international activities that African curriculum centres should naturally benefit from. I am personally in favour of such an organization and I look forward to learning more about its establishment. Your departure from here this weekend cannot, and should not, be the end of all that has happened during the past five weeks. I see an organization like the one being planned helping to keep different curriculum centres within the African region in touch with each other. This is a natural follow-up that one should expect from a seminar like this one which is now coming to a close.

Ladies and Gentlemen, a good deal of money has gone into this seminar; transport, boarding and lodging, stationery and other expenses must have added up to quite a substantial amount. I associate myself with my Commissioner who during his opening address to you said that the seminar could not have been made possible without the generous help of some funding organizations. I am sure all the curriculum centres represented at the seminar would wish me to express our sincere thanks to all those who toiled to make the seminar possible. The International Institute for Educational Planning (IIEP), the International Curriculum Organization (ICO), the Unesco Division of Structures and Content of Life-long Education and the Unesco Regional Office for Education in Africa (BREDA) deserve our thanks. Our special thanks must go to the Swedish International Development Authority and the German Foundation for International Development for providing the bulk of the fund for mounting the seminar. We are most grateful for this assistance.
I believe that the participants have made good use of the opportunities made available to them during the seminar to justify the expenses in terms of time and money.

Before I declare the seminar closed I must say that I hope you have not spent every bit of the five weeks deeply buried in seminar papers. I trust that you did enjoy your trips to town, the visit to Akosombo and the occasional Saturday entertainments.

Fellow educators, Ladies and Gentlemen, while wishing you safe journey back to your countries over the week, I have the pleasure to declare the African Regional Seminar closed.

Thank you.

APPENDIX 5

BASIC QUESTIONS AND PRINCIPLES OF CURRICULUM PLANNING AND DEVELOPMENT DISCUSSED AT THE AFRICAN REGIONAL SEMINAR

What educational objectives?

At the beginning of the course on curriculum planning and development, a brief reference was made to the meanings of terms like 'curriculum' and 'educational objectives'. It was pointed out that educational objectives could be classified into broad and specific types and that in determining the specific objectives for a course of study the educational objectives should be set to cater for the different hierarchical levels in the cognitive, affective and psychomotor domains at which the learners would be expected to perform. In discussing the sources for obtaining relevant information to determine educational objectives, reference was made to the learners, contemporary life situations and subject specialists. Emphasis was placed on determining the needs of learners and the methods that could be employed in collecting relevant data. Since contemporary life covers a wide and complex field the curriculum planners must focus their efforts on the ciritical aspects of this vast and complex life which would be important and of interest to the learners for whom they plan the curriculum. With regard to subject specialists, it was argued that the important thing was to obtain from the scholars what they considered to the fundamental structures of their fields of study. Armed with this kind of information the curriculum designers will be able to determine the kinds of educational objectives that will be pursued by the learners.

Using philosophy and pscychology in selecting objectives

The earlier lectures explained that the school is expected to help students learn what is important in meeting the needs of the nation. The school should also help students learn the things that will enable them to meet their own needs and to pursue their own interests. The studies that you can make of your own contemporary society are useful in identifying, in fairly specific terms, the needs of the nation and the opportunities for work, service and enjoyment that are developing in the society. These can then be translated into educational objectives, that is, things that students can be helped to learn. Studies that you can make of the students themselves are also useful in identifying the needs and interest of the students in terms that can be translated into educational objectives.

Furthermore, the various subject fields, language, science, social studies, mathematics, vocational, technologies, all can serve as resources on which students can draw in living their lives and performing their various activities. These subjects need to be examined to find out what they have to offer that can be useful to your students. This examination of the subjects will identify objectives, i.e. things that can be learned in these subjects by students that will be useful to them now and in later years.

These studies will suggest a much greater number of objectives that can be learned during the limited time available for schooling. A careful selection must be made so that the objectives that are established for the curriculum are not too many to be learned and practised again and again so that they become part of the student in regular behaviour, not something memorized and largely unused. In making this selection, the educational philosophy of your school can be a guide for picking out the most important objectives that can be learned under the conditions found in your schools.

In a democratic society, the educational philosophy usually emphasizes the importance of developing understanding and the ability to solve problems r rather than blind acceptance of authority. In this case, objectives to be given emphasis are those that help the student understand the situations that he meets, and attack the problems that he encounters. A democratic philosophy also stresses the dignity and worth of every individual. This would give importance to objectives that help the student learn to respect others as well as himself, and to be fair and helpful in his relations with others. These are only illustrations of many that could be presented to show how the schools philosophy is useful in selecting objectives.

What you know about the psychology of learning helps you to select objectives that can actually be learned in your schools. For an objective to be learned several conditions are necessary. For example, the behaviour to be learned must be within the pupils' ability to carry it on. There must be opportunity and time to practise the behaviour, and many chances to practice the behaviour outside of school. These conditions mean that objectives selected for the curriculum should be appropriate for the stage of development of the pupils, should be behaviours that the pupils will have a chance to use outside of school and should be given time enough for adequate practise in school. Most curriculum plans include too many objectives to be learned in the time available. But as a result of screening the possible objectives by use of philosophy of learning, you should be able to select a set of objectives that are things that students can actually learn that will help meet the needs of the nations and their own needs and interests. These objectives should make use of the contributions of the several school subjects. They should be consistent with the school's philosophy and they should not be too many so that they can be learned under the conditions prevailing in the schools.

Stating objectives concisely and in behavioural terms

Learning, whether in school or out of school, is acquiring new patterns of behaviour, that is new ways of thinking, feeling, or acting. Since an educational objective is a statement of what the student is to learn, it should be a statement of the behaviour he is to acquire. For example, to learn a language is too vague a statement to guide the teacher or the curriculum maker. To learn a language usually involves such objectives as: comprehending simple oral conversation in the language, speaking about common conversational matters in the language, reading simple material like newspaper items in the language, writing letters to friends in the language. In this illustration, each objective has two parts, one part that states the kind of behaviour the student will acquire; namely, oral comprehension, speaking, reading and writing, and the other part, the content with which the behaviour deals. In this case the content for oral comprehension was simple conversation, the content for speaking was simple conversation, the content for reading was simple material like newspaper items and the content for writing was letters to friends.

A statement of an educational objective should indicate both the behaviour and the content, for the behaviour tells the curriculum maker and the teacher that the student will have to have opportunity to practise this behaviour and the content tells what the student will need to practise with. In the illustration, for oral comprehension the student will need to practise listening and trying to comprehend the content of oral conversations in the language. The little book Basic Principles of Curriculum and Instruction, gives a number of illustrations of concise statements of objectives in terms of behaviour and content.

In the discussion that followed this presentation several issues were raised and points made. One issue was whether any consideration should be given to the needs and interests of students when national needs were so important today. It was suggested in reply that students could not be forced to learn and if the school did not help them learn things in which they were interested or things which they needed, then effort to learn in school would be too limited to get effective learning.

The question was also raised about who was responsible for stating the educational philosophy of the school. In reply, it was pointed out that the national goals as stated by political leaders suggested certain features of the educational philosophy but the educators are responsible for identifying philosophic questions that are important to guide the curriculum and to formulate answers to these questions which are in harmony with both the nation's goals and with an effective educational programme.

The question was also raised about the need for reviewing each subject to see what it could provide for school learning. The answer given was that experts in subject fields have usually worked courses in terms of what the person preparing to be an expect should learn. What is needed for the school curriculum is to find the concepts, principles, skills and the like which are helpful to the student in understanding his world, doing his tasks, and living his life. A subject needs to be viewed as containing resource for living and not as an end in itself.

The talk on Educational Objectives and Life-long Education raised further fundamental questions on the scope and purpose of education. According to the concept of life-long education, education should be viewed in its totality and seen to encompass all the stages of life from the cradle to the grave. The home plays the first, most subtle and crucial rôle in initiating the process of life-long education. The family, the community and institutions providing formal education are all important agents in life-long education. This being the case, educational objectives should be concerned with enhancement of educability; development of skills and attitudes relating to (a) learning to learn, (b) learning to share knowledge and experience with others, (c) learning to evaluate, and (d) learning to change and improve. The development of skills in different learning styles, e.g. inter-learning and self-learning awareness of the need for learning throughout life, mastery of skills and the need to integrate in-school and out-of-school learning are all very important factors when considering educational objectives in terms of life-long education.

What educational experiences should be provided?
Principles in selecting learning experiences.

Wherever learning takes place the following things take place:

(i) the learner carries out a new pattern of behaviour;

(ii) he obtains satisfaction from this, sometimes this is called reinforcement;

(iii) he carries on the new behaviour again and again, that is, he practises it and keeps getting satisfaction from it;

(iv) finally, this behaviour becomes part of his repertoire, that is, he can behave this way whenever it is appropriate. We then say that he has internalized the learning. It is now part of him.

It is easy to see this learning process when the pattern of behaviour can be observed. I watched two six-year old children try to learn how to ride a bicycle. One tried several times and was balancing himself, then he kept up his practice, getting better and better balance, now he rides easily. In this case, the learner carried on the balancing behaviour and got satisfaction because he did not fall of the bicycle. So he kept practising until he could ride easily.

The other six-year old tried to ride the bicycle and kept falling off. He did not carry on good balancing behaviour. He got no satisfaction from his efforts. Finally, he gave up. He did not learn to ride a bicycle.

This same process is involved in learning other kinds of behaviour. For example, I observed a third-grade class in which the objective was for the children to understand two concepts of economics, namely, division of labour and work incentives. The first learning experience was one in which the children were preparing for a reception for their parents to come to the school. Some children worked in the preparation of sandwiches, another group prepared the lemonade, another group prepared some signs to inform the parents about the work, and another group calculated the amounts of food and drink required. As they relaxed from their work the teacher called attention to the fact that the work had been divided up among the class members. He asked whether this division of labour helped get the work done. They discussed this question comparing the time and effort required with that which would have been required if each pupil had had to prepare everything for his own parents. Then the teacher asked for illustrations of division of labour in their own homes. These experiences stimulated and guided the learners to look at work in terms of involving division of labour. As they found this concept helpful in understanding the organization of group work and helpful in planning their own group activity, they used the concept more and more, and this practice led to their thinking of division of labour whenever they faced group work. The same kind of learning experiences were used by the teacher in developing understanding the concept of work incentives.

The teacher went on to illustrate that this process of learning takes place when other educational objectives are sought, that is, when other patterns of behaviour are learned. The illustrations given were understanding the process of digestion of starch in the human body, applying the principles of heat transfer in cooling by evaporation, developing interest in reading a variety of types of fiction and non-fiction, developing appreciation of aesthetic values in art, developing habits of punctuality.

The point was also made that one set of learning experiences can contribute to the development of more than one objective. For example, in the illustration of the third grade class developing understanding of the concept of division of labour some children were also learning to prepare food, some were learning to use arithmetic computation in working out the amounts and the costs of food and drink. In the reading interest illustration the students were also increasing their skill in reading comprehension and gaining understanding of the subjects dealt with in their reading.

It should also be clear that there are many possible learning experiences that can be used to help students attain an educational objective. This gives curriculum makers and teachers opportunity for the use of their ingenuity, creativity and artistic skill in designing learning experiences.

When persons are eager to learn something and know what they want to learn, and how they will use it after they have learned it, the curriculum maker and the teacher need consider only the three conditions, namely, giving opportunity for the learner to carry on the behaviour, seeing that he gets satisfaction from correct performance, and seeing that he has opportunity to practise it until it has become part of him. But much school learning involves learners, who without help are not eager to learn what the school seeks to teach, often do not know exactly what they are to learn and frequently do not see how they will use what they are learning. For this reason, many learning experiences must be designed to take these things into account.

The following are important conditions that need to be considered in planning learning experiences for children and youth:

1. What can be done to help the learners become interested in this particular learning task?
2. How can the learning objective be made clear to the learner so that he knows what he is expected to learn? This is particularly important where learners have been accustomed to memorize material so that they believe the learning objective is memorization rather than some more important behaviour.
3. Are the learning tasks within the capabilities of the learners for whom they are designed? That is, will these children be able to carry out the learning tasks successfully?

4. What can be done to ensure that timid learners can gain confidence to try the learning task? No one wants to fail. If the learner thinks he cannot do the task, he will not try it. The learning experiences should consider how the learners can be helped to gain self confidence.

5. Learners need to get satisfaction from carrying through the learning task successfully. Are there a number of possible kinds of satisfaction for teachers to consider? Among the satisfactions are: the learner realizes he has succeeded in what he tried, the learner is commended by the teacher, the learner gains approval from the other children, the learner finds that the learning task was interesting, etc.

6. When a learner does not carry out the learning task successfully he should obtain feedback, that is, he should be helped to see what the difficulty was, and be encouraged to try again. Have feedback arrangements been planned for these learning experiences?

7. For the learner to internalize what he is learning and to be able to see it both in the school and out, the learning experiences should provide many opportunities for practising both within the school and outside of school.

In the discussion that followed these lectures it was pointed out that curriculum centres do not usually include on their staffs persons who know enough about pupils of the several age levels and from various backgrounds to prepare learning experiences appropriate for the range of pupils found in the schools. The reply made was that the curriculum cannot be effective unless the pupils are learning the objectives. Often, curriculum centres bring in teachers to work out examples of learning experiences that are appropriate for their own pupils, and those examples are distributed to a larger group of teachers who are asked to prepare more examples. Then these learning experiences are tried out in pilot schools to see how they work, and to make revisions that appear necessary.

Another comment was made that the curriculum centre is responsible for stating objectives and content, but the teachers have the responsibility of working out learning experiences. In reply, the statement was made that this is satisfactory if the teacher can design learning experiences to attain the objectives, but if they cannot do so the entire purpose of curriculum development may fail because memorization predominates and the pupils are not helped to practise the behaviour they are expected to learn.

Another question was raised in the discussion: Isn't the primary task of a curriculum centre to write textbooks? In reply, the point was made that the curriculum is a plan for student learning. If in a country, the desired student learning requires only a minor modification in what has been going on in the schools of the past, revisions of textbooks may be all that is required. However, in this seminar, the point has been made again by representatives of most of the countries that a much more thorough going curriculum reform is necessary; not only is more relevant content needed and more vital objectives than memorization but also the need for encouraging the activity and the initiative of the pupils. This comprehensive reform requires a careful examination of every part of the plan for learning, and often the working out of a re-design or a new design for instruction. These are not minor matters, each of them has been a sower of serious difficulty in curriculum reform throughout the world. Most curriculum centres will need to develop much more than textbooks. They will need to prepare such things as teachers guides, outline of learning experiences or guidelines to help teachers prepare them, materials for children to use in learning, or directives in obtaining them, practical exercises, tests, etc. The curriculum must consider how to assure that appropriate learning experiences are being provided in the schools.

How can educational experiences be organized?

The school seeks to bring about rather fundamental changes in the way pupils think, feel and act. To acquire competence in the use of language and mathematics, to develop a more helpful understanding of the world and of people than is provided by folklore and superstition, and to learn to get satisfaction and meaning from the vast array of cultural developments in the arts and music are illustrations of these kinds of objectives that require extended and efficient learning. They cannot be attained on isolated bits of learning. To go any distance in education requires organized learning experiences, so that together they may produce a cumulative effect. Month after month, year after year, if the learning experiences are well organized, the learner gains more and more skill, is able to understand and deal with increasingly complicated problems, and derives increasingly deeper meaning and joy from his life experiences.

Much of the content of the school curriculum of the past has been organized, but it has been organized in terms of its usefulness to the professional in each subject or those preparing to be specialists. This organization is not very helpful in the education of children who are not becoming specialists. In the first place, in selecting objectives that help to meet the needs of the nation and the interests and needs of the learner, only a small part of any subject is taken, and in the second place the learner needs to see these parts of subject matter that have been selected in terms of their value to him in living his life, carrying on his activities and attacking his problems. Such an organization is usually quite different from the organization developed by the specialists in the subjects. The curriculum maker must make a careful review and appraisal of the organization proposed for each subject in the syllabi and textbooks.

One should look at the organization of learning experiences in terms of its proposition from the beginning (the first day of instruction) to the end (the last day of instruction), that is, from the first year to the last year of schooling. This is commonly called vertical integration. There needs to be continuity in the concepts, the skills, the values that are being learned, rather than having something taught at one time and never used again. Furthermore, in the vertical organization it is important to help the learner keep going farther and deeper into what he is learning. Each new experience with a concept, skill, or value should build on previous ones, and go beyond them to help the student become increasingly competent in what he is learning. This is called sequence.

In addition to vertical organization consideration must be given to the way in which the student can relate what he is learning in one course with what he is learning in other courses, and how it relates to his experiences outside of school. What he is learning should not become compartmentalized, that is, he should not just use mathematics in a mathematics course, nor just use reading in a language course and so on. The learner must see connexions among the various things he is learning so that he will use them wherever they are appropriate. This is called horizontal organization the purpose of which is to help the pupil integrate his school learning with the rest of his life.

This description of vertical and horizontal organization has also stated the criteria for the organization of learning experiences, namely, continuity, sequence and integration. An effective organization should enable the pupil to keep developing, month after month and year after year, his understanding of each important concept, his command of each basic skill, and his appreciation and commitment to each of the essential values through continuous involvement and use of them through sequential practice in which he has the opportunity to go beyond his initial experience. These are important criteria to guide the planning of vertical organization. For horizontal organization the criterion is integration, helping the student to see the relationship, among the several things he is learning in and out of school.

The elements that can be used in organizing learning experiences are concepts, skills and values. In every subject there are concepts that are important for the student to understand and to use in comprehending and interpreting the world and in dealing with his life. This is characteristic, for example, of science where 20 to 50 concepts can provide the basis for a cognitive map of the world that can help the pupil understand it. The same is true in social studies where another 20 to 50 concepts can help the pupil understand human relations as well as social institutions. Other subjects also have important concepts that are helpful to pupils. Each concept can be used as an element of roganization in which it is involved in learning experiences month after month with increasing comprehensiveness.

Subjects like mathematics, language and vocational technologies usually include the development of certain skills, like those of computation, reading and use of tools as important objectives. Basic skills can be elements of organization, appearing again and again, each time being used more deftly and fully than the time before. Civics, art, music and literature are subjects that include values as important objectives. Such values as co-operation, patriotism, honesty are emphasized in civics. Aesthetic values are stressed in art and music and human values in literature. Each major value can be used as an organizing element being involved from month to month in the curriculum, each time at a higher level.

By the use of these elements of concepts, skills and values, the sequence of learning experiences can be planned.

In discussing sequence, the previous illustrations have been mentioned several times moving on to higher levels. In planning movement from the first experience through the months and years of the curriculum various principles are used in the many plans that have been published. Among them are:

1. Beginning with a simple application of the concept, skill or values moving from month to month, to an increasingly wider range of applications. Thus children may deal first with co-operation in their own classroom in the activities of the school, and then learn to co-operate in matters outside the school, and with older people and younger people.
2. Beginning with an easy task involving a skill to more and more difficult or complex tasks.
3. Beginning with a task that involves only one skill, or one concept or one value, to tasks where two and then three, and four are involved. For example, in some school activities, co-operation is the only main value involved but in a team game the learner must learn both

to co-operate with other members of his team and to compete with another team. In this way he has to learn to be guided by two difficult values in the same game, co-operation and competition.

4. Beginning with situations very familiar to the student, he moves to situations that are new where the same concept, skill, or value is important.

5. Beginning with situations near to him, like the home, or the school, the curriculum may involve him in situations that are farther and farther away, such as the community, the nation, the world.

These are illustrative of principles used to obtain a sequential organization. To plan for integration, some of the following principles are often used:

1. Organizing learning experiences around a job the pupils undertake in which the concepts, skills, or values of several courses are all involved. In this way the learner sees how to draw upon different things he has learned in order to do the job.

2. Organizing learning experiences around an activity pupils can engage in such as making some recreational equipment for the community. This may draw upon what they are learning in social studies, reading, mathematics and vocational technologies.

3. Organizing learning experiences around a problem which pupils want to solve such as reducing the health hazards in the community.

4. Organizing learning experiences around projects which each individual pupil, or group of pupils, has undertaken. For example, the project might be to grow a calf, to design and make a dress, to make a table. The important point is to get projects that use what the pupil has learned in several courses.

5. Organizing learning experiences around a simulated situation like a game, or a play store.

In this lecture brief comments were made about the planning of organizing structures like courses and units but the lecture did not treat this topic as fully as it is teated in the little book, Basic Principles of Curriculum and Instruction.

In the discussion that followed considerable time was spent on the problem of organization created in many of the countries that employ an examination system that does not parallel the objectives, the content or the organization of the curriculum. In the case of America, the selection system is initiated by the decisions of teachers as to what courses a pupil is permitted to take. If he is not permitted to take certain courses that are required for entrance into the next higher level of the school system a momentous decision has been made for him by the teacher. It is clear that parents and pupils are powerfully influenced by the selective system on what pupils consider important to learn. In the process of curriculum reform, the examination system and other parts of the selective system must be involved so that eventually, the country's educational aims, objectives and learning plans are consistent and do not involve conflicts within the total educational system.

A good deal of discussion was also focussed on the difficulty of getting co-ordination and integration among the several school subjects. Unless those responsible in planning the objectives and content of each subject are clearly conscious of the need for integration and possible ways of attaining it, school subjects will continue to be compartmentalized.

Evaluation: How can we determine that the curriculum objectives are being attained?

Since the lectures during the last two weeks of this seminar are devoted to the procedures and techniques of curriculum evaluation, this lecture is intended to provide an overview and not to deal with the processes of evaluation.

Planning and implementing a curriculum are complicated tasks and although the principles, the entire and the generalized procedures that have been developed make it likely that a curriculum can be designed and established that is effective in achieving its objectives, most plans turn out to have some weaknesses, and some difficulties are discovered that need to be remedied in order to make the curriculum more effective. The purpose of curriculum evaluation is to find out how well the plan is working, that is, to discover whether the students are learning what the curriculum seeks to help them to learn, and if there are inadequacies in pupil learning, to find out what kinds of pupils are having difficulty and with what parts of the curriculum.

There is confusion at curriculum evaluation because it is different in some respects from other kinds of educational evaluation. In the long history of education in various parts of the world, students have been evaluated in order to select some of them for further education and discourage others from continuing their schooling. To do this kind of sorting, examination questions were devised that were difficult and often esoteric so that only a few persons could get correct answers. These few were selected for further education. The questions did not fairly sample what the schools were trying to teach, in fact, many of the esoteric questions were not even taught in the school. The 'gifted' students learnt them at home, in their extensive reading and in other out-of-school experiences. Nevertheless, the results of these examinations were often used as evidence of the quality or effectiveness of school instruction. Until this tradition is overcome the curriculum will not be evaluated comprehensively and fairly in terms of whether the pupils are learning what has been set out as the curriculum objectives.

In addition to sorting, there are other kinds of educational evaluation, for example, in placing pupils at proper entry points for their learning, in diagnosing learning difficulties of some students, and identifying when the student has learned the basic things in the unit of instruction and is ready to take the next unit. These uses of evaluation must not be confused with curriculum evaluation, which is an effort to find out how well the curriculum is succeeding in helping pupils attain the educational objectives.

However, in conducting a curriculum evaluation, it is usually necessary to find out how far the curriculum is actually being carried out as designed. John Goodlad, in his well known studies, Behind the Classroom Door, found that in nearly 70 percent of the classrooms where a new curriculum was supposed to be in operation, the teachers and children were seeking to memorize the textbooks rather than to attain the new objectives. In finding out whether pupils have learnt from the new curriculum it is necessary to see that they have, in fact, been following the new curriculum.

The basic idea of curriculum evaluation is to list objectives which the pupils are expected to attain, then to select or design means for finding out whether the students have learned these things. These means of evaluation will vary with the kinds of objectives. Written tests are often useful to find out whether pupils understand the concepts. The test may ask them to explain something which the concepts help to explain. Skills may be appraised by observation of the performance of the skills or by examining products produced by the skills. Values can be assessed by observing behaviour in which the values are involved or by questioning pupils their reason for doing something or preferring something in which the value is involved. As an illustration, in the U.S. National Assessment of Educational Progress, one educational objective is the development of the value of co-operation. An exercise used to assess this is to ask a sample of 13-year old pupils in a school to form a group to work on an interesting and significant community problem, namely air pollution. The evaluation person observed each group at work on the problem and recorded the co-operative actions and the non-co-operative ones. This provided evidence on the degree to which 13-year old children practised co-operation.

Because curriculum evaluation seeks to find out the effect of the curriculum upon pupil learning, it is desirable to make an assessment of the status of this learning at the beginning of the course and then another assessment at the end to see what has been learned during the time of the course. Furthermore, a purpose of schooling is to help the student internalize what he is learning so that it is part of him, not something to be forgotten as soon as the course is over. For this reason, curriculum evaluation should also provide for a follow-up a year or more later to see how permanent the learning was.

Evaluation is an essential part of curriculum planning. Where time and resources permit, initial curriculum plans should be tried out in a few schools and evaluated by assessing what students have learned from it. This evaluation will also usually indicate certain objectives that are not being attained by many pupils. These results should be examined carefully to try to understand what did not work, and then to revise that part of the curriculum accordingly. In some cases, certain groups of pupils are having difficulty. This raises the question as to whether the curriculum can be revised so that all will learn from the same plan or whether to develop a special plan of learning for certain types of pupils.

After these revisions additional try-outs will help to show whether the curriculum has been improved. If you cannot afford the time and resources for another try-out, evaluation, after the curriculum is fully in operation, will furnish information about needs for revision at a later date.

The discussion that followed the lecture emphasized the need to educate teachers both to appraise student learning and to use the results in modifying and improving their teaching.

There was also some discussion of a wide-scale evaluation such as the U.S. National Assessment of Educational Progress. However, such a wide-scale enterprise did not appear feasible to the participants because of the shortage of trained personnel.

APPENDIX 6

END OF SEMINAR QUESTIONNAIRE

55 questionnaires were returned
(86% - out of 64 participants present in the last week)

Final results

1. In terms of the content covered at CIMPA, do you consider that a five-week program was: too long 18 about right 27 too short 6

2. Which of the following effects do you believe your team and/or your team paper can have on the future curriculum work in your own country.

	Team			Team Paper		
	Little	Some	Much	Little	Some	Much
An improved model of curriculum development	4	23	24	6	27	14
The training of personnel for specialised roles in curriculum development	4	26	23	12	19	17
The training of the persons in your own center	8	22	16	10	18	16
The involvement of particular agencies or persons in the planning and implementation of different modes of approach to curriculum development.	1	23	18	6	24	13

Topics of Lectures	A Were the ideas clear?		B Is this topic likely to be of value in your country & C.C.		C Would you like further training or information about this topic?	
	YES	NO	YES	NO	YES	NO
A/ CURRICULUM PLANNING AND DEVELOPMENT						
1. Model of curriculum planning and development	51	2	52	-	40	7
2. Systematic determination of educational objectives	51	4	50	-	36	10
3. Principles in selecting learning experiences	48	5	50	-	40	9
4. Using educational philosophy and psychology in planning curriculum content	43	10	46	1	41	7
5. Vertical and horizontal integration of learning experiences	47	4	48	-	40	7
6. The concept of life-long education	45	3	47	1	37	9
7. Case studies in curriculum planning and development	40	9	39	5	35	11
B/ CURRICULUM EVALUATION						
1. General principles and models of curriculum evaluation	53	1	52	-	43	6
2. Evaluation at the planning Stage	55	-	55	-	40	10
3. Evaluation at the Trial Stage	54	1	52	-	39	9
4. Evaluation at the Implementation Stage	52	2	50	1	40	9
5. Evaluation for Quality Control	43	9	47	1	44	5
6. Use of Tests & Scales in Curriculum Evaluation	43	7	51	1	44	4
7. Observational Techniques	51	1	50	1	36	7
8. Use of Expert's judgment and Public opinion	50	5	51	4	31	18
9. Case Studies in Evaluation	41	7	44	5	35	12

Appendix 6

Topics of Lectures	A Were the ideas clear?		B Is this topic likely to be of value in your country & C.C.		C Would you like further training or information about this topic?	
	YES	NO	YES	NO	YES	NO
C/ SOCIAL AND INDIVIDUAL CHANGE						
1. The implications of social and cultural conditions in determining curriculum development	50	5	50	-	40	11
2. A need for cooperation between curriculum experts and political decision-makers	50	3	52	-	27	19
3. Methods of determining educational objectives and content for school leavers and other groups of students	39	8	48	1	36	13
4. The Economic values of education	45	8	47	3	34	13
5. Vocational and ruralized education	32	17	40	6	33	14
D/ TEACHER TRAINING						
1. Determining the general education component of teacher education	46	5	49	1	36	12
2. The three phases of the professional education component; Foundations-Laboratory-Practicum	37	15	47	2	32	12
3. The functional specialization component in Teacher Education	40	10	45	2	34	10
4. Organising in-service education courses	51	4	53	-	31	17
5. Running orientation courses for launching new curricula	46	6	51	-	33	14

Topics of Lectures	A Were the ideas clear?		B Is this topic likely to be of value in your country & C.C.		C Would you like further training or information about this topic?	
	YES	NO	YES	NO	YES	NO
E/EDUCATIONAL TECHNOLOGY						
1. Principles of learning - The use of three principles of learning to analyse and improve learning materials and institutional materials	45	7	48	2	39	9
2. The use of student's helping each other as one means of individualizing learning	48	4	45	3	26	16
3. Mastery learning. The development of feedback and corrective systems to enable almost all students to attain mastery of a subject	49	4	47	3	39	11
4. Programmed Instruction - The development and use of programmed learning material for selected types of learning	47	5	34	14	36	15
5. Mass Media - The use of film, radio, TV, and other communication techniques for particular large scale curriculum and teaching problems	41	9	42	6	34	14
6. Educational Technology - The use of selected systematic techniques to maximize the learning effects of currciulum programmes	38	13	41	6	34	12
F/SPECIAL LECTURES						
1. Problems and issues facing African countries in curriculum developments	51	3	51	-	35	16
2. Education and social & cultural change	52	2	52	-	39	9
3. The role of language and Language Policy in curriculum development	53	1	51	-	37	14

Appendix 6

CONTENT OF SEMINAR

4.1 Are there some additional topics which you believe should have been covered in your seminar? Yes 22 No 15

4.2 Which of these features of the seminar contributed to a deeper understanding of your seminar field?

	Little	Some	Much
a. books and illustrative materials provided in the seminar	4	17	34
b. the presentations of faculty members	1	23	28
c. consultations with individual faculty members	11	20	22
d. work in sub-groups	12	28	14
e. the presentations of other participants in your seminar	8	31	16
f. individual work	11	22	20
g. your paper	6	18	22
h. private discussions with other participants	4	24	24
i. Other (Please specify)* Interaction between faculty and participants; informal discussions; books on courses.	-	-	3*

4.3 Did you get to know the problems of your seminar field in other countries? Yes 47 No 6

4.5 Did the individual seminar paper you prepared help you to synthesize new ideas for future work in your country? Yes 41 No 9

4.6 The seminars were intended to help you get to know other curriculum workers and the curriculum work in other countries. Comment on the following:-

a. Will you be able to use these contacts to keep aware of the developments in your field in these other curriculum centres? Yes 50 No 2

b. Will you be able to exchange materials and ideas with some of the other participants in your seminar in the future? Yes 51 No 2

TOPICS IN CURRICULUM SEMINAR

	Were the ideas clear?		Is this topic likely to be of value in your country & C.C.		Would you like further training or information about this topic?	
	YES	NO	YES	NO	YES	NO
1. Stages in curriculum planning and development	11	-	11	-	8	3
2. Determination of educational objectives	10	1	11	-	9	2
3. Principles in selecting learning experiences	11	-	11	-	10	1
4. Principles in organising learning experiences	11	-	11	-	10	1
5. Taxonomy of educational objectives	9	2	11	-	11	-
6. Basic values to be considered in curriculum development	10	1	11	-	10	1
7. Problems in curriculum p planning and development	11	1	11	-	9	2
8. Establishment and administration of curriculum centres	9	1	10	-	8	2
9. The concept of mastery learning	10	1	10	1	9	2
10. Stages in textbooks production	7	4	9	-	8	1

TOPICS IN EVALUATION SEMINAR

	Were the ideas clear?		Is this topic likely to be of value in your country & C.C.		Would you like further training or information about this topic?	
	YES	NO	YES	NO	YES	NO
1. Concepts of formative and summative evaluation	9	-	8	1	3	5
2. Design and Construction of questionnaires and rating scales	7	2	8	1	7	2
3. Simple Date processing procedures using card punch and card sorter	9	-	7	1	6	3
4. Research Design and Sampling Techniques	6	3	6	1	6	3
5. Observational Techniques	9	-	8	1	5	4
6. Construction of Formative and Summative Tests	7	2	6	1	7	2
7. Item Analysis Techniques	8	1	7	-	5	3
8. Statistical Techniques in Data Analysis	5	3	7	-	6	3

African Regional Seminar

TOPICS IN SCIENCE SEMINAR

	Were the ideas clear?		Is this topic likely to be of value in your country & C.C.		Would you like further training or information about this topic?	
	YES	NO	YES	NO	YES	NO
1. Goals of Science Education	11	-	10	1	4	5
2. Objectives in Science Programmes	10	-	10	1	5	3
3. Structures of School Science Curriculum	9	1	9	1	3	3
4. Integrated Science in School Curriculum	9	2	10	1	6	3
5. Development of Curriculum Materials	10	1	9	1	5	3
6. Practical Work	8	2	9	1	3	5
7. Trial of Curriculum Materials	8	1	9	-	5	4
8. Implementation of Science Programmes	11	-	11	-	6	3
9. Construction of Test Items in Science	8	2	11	-	7	3
10. Unit Construction	8	1	10	-	4	3

Appendix 6

TOPICS IN MATHEMATICS SEMINAR

	Were the ideas clear?		Is this topic likely to be of value in your country [illegible] S.C.		Would you like further training or information about this topic?	
	YES	NO	YES	NO	YES	NO
1. Goals of Mathematics Education	6	1	7	-	6	1
2. Behavioural Objectives in Mathematics	4	2	6	1	6	1
3. Construction of test items in Mathematics	3	3	6	-	6	-
4. Strategy for Unit Construction	2	4	6	-	6	-
5. Using Piaget's ideas in Mathematics Education	2	4	6	-	6	-
6. Structure of Elementary School Modern Mathematics Curriculum	5	1	7	-	7	-
7. Structure of Secondary School Modern Mathematics Curriculum	6	1	7	-	6	1
8. The Role of a Mathematics Laboratory in the Learning of Mathematics.	6	1	7	-	7	-
9. Design of Questionnaires and the use of questionnaires, ability, and attitude inventories in mathematics	7	-	7	-	6	-

African Regional Seminar

TOPICS IN SOCIAL STUDIES (IDEAS)

	Were the ideas clear?		Is this topic likely to be of value in your country & C.C.		Would you like further training or information about this topic?	
	YES	NO	YES	NO	YES	NO
1. Integration	5	-	5	-	3	2
2. Activity Method	5	-	4	-	4	1
3. Attitudes and Values	5	-	5	-	5	-
4. Use of Flow Charts	5	-	5	-	4	1
5. Learning Unit	5	-	4	-	4	-
6. Group Work	4	1	5	-	4	1
7. Social Change	4	1	5	-	4	1
8. Specific Objectives	5	-	5	-	5	-
9. General Objectives	5	-	5	-	3	2
10. Evaluation	5	-	5	--	5	-
11. Systematic Curriculum Development	5	-	4	-	4	1

Appendix 6

TOPICS IN LANGUAGE SEMINAR

	Were the ideas clear?		Is this topic likely to be of value in your country & C.C.		Would you like further training or information about this topic?	
	YES	NO	YES	NO	YES	NO
1. Identification of objectives of a Language Policy	11	-	11	-	5	5
2. The place of Constrastive Studies in Language Teaching	11	-	11	-	8	3
3. Language learning theories (cognitive)	11	-	10	-	5	6
4. Basic Language Teaching Methods	10	-	10	-	5	5
5. Scope and Sequence of Teaching Items	10	1	10	-	7	3
6. Construction of proto-type lesson units	9	2	9	1	6	4
7. Evaluation of Teaching (trial) Materials	10	1	11	-	7	3
8. Complementary (supplementary) Reading Programme	10	1	10	1	5	5
9. Problems of Reading: Principles of Reading Readiness Materials	11	-	10	-	6	4
10. Printing and publishing procedure for language books	10	1	9	1	5	6
11. Basic principles of constructing pupils' work-books and tests	11	-	11	-	6	5
12. Construction of simple language teaching aids	10	-	9	-	5	4

GENERAL QUESTIONS

1. How do you evaluate the effect of the Ghana Regional Seminar on your own understanding of curriculum development and evaluation? Please give reason for your answer.

Most the participants answered favourably and evaluated the effect of the seminar as instructive and useful for their development and further work (positive answers 40; negative 3). Some typical remarks: "The seminar has been a good introduction to systematic curriculum development"; "a worthwhile experience"; "I feel very strongly that some decision-makers or policymakers could have been involved in this seminar and especially from my country"; "The seminar has had a very positive effect on my understanding of curriculum development by creating in me an awareness of the systematics of the subject. I can now go back to my job and introduce a measure of order in existing curriculum plans and programmes".

Criticism: "We tried to cover too much in a short time"; "Some lecturers needed to cover their lectures to implementation 'level' (sic)".

2. Please evaluate the effect of the Ghana Regional Seminar on the development of a common set of ideas and ways of working together with the other members of your team in the future.

Almost everyone expressed appreciation for the beneficial effect of the seminar on strengthening the co-operation of the team members and the teams.

"The experiences of the seminar has given the team a common ground from which members can work in co-operation"; "We have been able to develop a good team spirit from the very start of the seminar. We hope to continue working with that team spirit when we return home"; "... our communication within the centre will be greatly improved".

Criticism: "Individually much was achieved but not so much at team level. Members of the team saw themselves belonging more to seminar groups. The only bond that brought us together was the team paper".

3. What general judgements or views (either positive or negative) do you have about the Ghana Regional Seminar?

Most of the positive judgements emphasized the co-operation and interaction between participants and faculty; the relevance to African problems ("The seminar has been very successful and very educational in that it was addressing itself to the educational needs of Africa"); the exchange of experiences ("We have been brought together and we have been able to learn what other centres are doing").

Negative judgements mentioned that the theoretical approach was overemphasized, ("I would have liked to see theory and practice varied in the seminar. Instead most of the talks emphasized theory at the expense of practice"); another remark suggested that"the objectives of the seminar were not clearly understood by the participants" especially with regard to the team papers. Some participants considered the seminar too long, others too congested. Some participants saw the preparatory work as more faculty than participant centred. Some criticisms were made about the inadequacy of stipend.

4. What is your opinion of the general atmosphere, and the social, cultural interactions at the Ghana Regional Seminar?

The overwhelming majority considered the general atmosphere and social, cultural interactions at the seminar very positive ("Excellent, fraternal, sincere, conducive to learning"; "a very cordial atmosphere"; "Ghanaians have made us feel at home and entertained us very well. They are very hospitable"; "The social atmosphere was very lively and people mixed easily. A new language seemed to develop"; "The social and cultural interactions among participants were very refreshing. The easy accessibility of the faculty and the organizers generally has contributed immensely to the relaxed atmosphere". Some of the participants, however, would have liked more opportunity for social interactions, excursions, more insight into Ghanaian education and curriculum development.

5. What observations (either positive or negative) do you have about the physical conditions (e.g. rooms, food, library and meeting facilities, etc.) of the Ghana Regional Seminar?

The observations about the physical conditions were on the whole positive. The participants generally appreciated the food and the accommodation, the excellent service. Some complaints were made of the food for lack of variety, of the rooms which were not self-contained and so the conditions were not equal for everybody, of the library which they found small and not quite adequately equipped.

WEEK 1, 14 - 18 July 1975

APPENDIX 7

DETAILED TIMETABLE

	LECTURES			SEMINARS (3.30 - 6.30 p.m.)						EVENING PROGRAMMES
Day	8.45 - 10.00 a.m.	10.30 - 12.00 a.m.	12.00 - 12.45 p.m.	Curriculum Planning	Evaluation	Science	Mathematics	Social Studies	Language	
MONDAY	Opening Ceremony	A.D.Mengot: Problems and issues facing African countries in curriculum development.		Review of country reports	Exchange of experiences in evaluation	The rôle of science education programme for Africa	Presentation by participants	Administrative arrangements; overview accounts of participants; the concept of social studies	Identification of objectives	
TUESDAY	A.F.Mmaka: What educational objectives should the schools pursue? (Part I)	R.H.Dave: Social and cultural conditions and their implications for curriculum development		Problems in curriculum planning	Formative and summative evaluation	The rôle of science education	Presentation by participants	Formulating objectives. The relevance of change, knowledge, attitudes, skills	Varieties	6.30 - 8.30 p.m. Reception at the Embassy of the Federal Republic of Germany
WEDNESDAY	R.W.Tyler: What educational objectives should the schools pursue? (Part II)	H.Weiler: The politics of curriculum development	Consultation	Educational objectives; seminar and team paper topics	Identifying a framework for evaluating Accra seminar	Current issues in science curriculum development	Presentation by participants	Scope of social studies; integration	Language learning theories (cognitive)	7.30 - 9.00 p.m. Consultation
THURSDAY	R.H.Dave: Educational objectives and life-long education	I.M.Omari: Social and individual changes in curriculum development: psycho- social-political considerations	Consultation	Content selection	Devising a feedback questionnaire for the seminar	Examination of on-going curriculum projects in participating countries	Modern curriculum development in the context of a changing Africa	Developing objectives; selecting content material	Basic teaching methods	
FRIDAY	R.W.Tyler: Educational experiences. Principles in selecting learning experiences	C.Wulf: School-based education: societal and individual change	Consultation	Team paper outlines	Administration and analysis of questionnaire	Examination of on-going curriculum projects	Modern curriculum development	Learning in social studies	The place of contrastive studies	7.30 p.m. Faculty meeting
SATURDAY										

WEEK 2. 21 - 25 July

	LECTURES			SEMINARS (2.00 - 4.00 p.m.)						EVENING PROGRAMME
Day	8.30 - 10.00 a.m.	10.30 - 12.00 a.m.	12.00 - 12.45 p.m.	Curriculum Planning	Evaluation	Science	Mathematics	Social Studies	Language	
MONDAY	R.W.Tyler: Educational experiences. Principles in selecting learning experiences (Part II)	Special lecture A.Afolayan: The necessity for considering language in curriculum	General issues	Discussion of team papers	Questionnaires and rating scales	Development of curriculum materials. Presentation by participants	Components of mathematics curriculum	Learning in social studies	Contrastive studies in language curriculum development	4.30-6.00 p.m. Team work Consultation 7.30-9.00 p.m. Consultation
TUESDAY	R.W.Tyler: Vertical and horizontal organization. Criteria for organizing learning experiences (Part I)	T.N.Postlethwaite The identification of objectives for school leavers. Educational surveys of student achievement	Consultation	General principles in selecting learning experiences	Design and construction of questionnaires and rating scales	Development of curriculum materials. Presentation by participants	Strategies for unit construction	Attitude and concept learning	Language learning theories	4.30-6.00 p.m. Team work Consultation 7.30-9.00 p.m. Consultation Committee meeting
WEDNESDAY	R.W.Tyler: How can educational experiences be organized? (Part II)	M.Blaug: The economic value of education	R.Ochs: Unesco - curriculum development in the context of life-long education	General principles in selecting learning experiences	Design and construction of questionnaires and rating scales	Decision making in the development of science curriculum materials	Stages for unit construction	Skills needed for effective learning in social studies	The place of language. Learning theories in curriculum development	4.30-6.00 p.m. Team work Consultation 7.30 p.m. Faculty meeting
THURSDAY	R.W.Tyler: Curriculum evaluation	M.Blaug: Rural education and rural development	Consultation	Organising learning experiences	Simple data processing procedures for questionnaires and rating scales	Practical work (E.S.U.)	Rôle of language in the learning of mathematics	Methods of teaching social studies	Basic language teaching methods	4.30-6.00 p.m. Team work Consultation 7.30-9.00 p.m. Consultation
FRIDAY	E.Ballér: Curriculum reform in Hungary (a case study)	M.Blaug: Cost-effectiveness analysis	Consultation	The place of evaluation in curriculum development	Simple data processing procedures for questionnaires and rating scales	Strategies of developing science materials	Rôle of language in the learning of mathematics	Rôle of teacher in social studies	Basic language teaching methods	4.30-6.00 p.m. Team work Consultation 8.30 p.m. Dance party (organised by the faculty)
SATURDAY										8.00 p.m. Performance by Lagos Dance Ensemble

WEEK 3. 28 July - 1 August

Day	LECTURES			SEMINARS (2.00 - 4.00 p.m.)						EVENING PROGRAMMES
	8.30 - 10.00 a.m.	10.30 - 12.00 a.m.	12.00 - 12.45 p.m.	Curriculum Planning	Evaluation	Science	Mathematics	Social Studies	Language	
MONDAY	A.F.Mosha: Implementation of a new curriculum: the Ghana situation	A.M.K.Bagunywa: Teacher education curriculum in Africa: an overview of pre-service education (Part I)	Consultation	2.00 - 4.00 p.m. Meeting of national teams						4.30-6.00 p.m. Consultation individual work 7.30-9.00 p.m. Consultation
TUESDAY	A.M.K. Bagunywa: An overview of in-service education - content and cost (Part II)	R.O.Ohuche: Curriculum planning and teacher education with special reference to cognitive development	Consultation	The nature of curriculum evaluation	Research design	Development and trial of curriculum materials		Unit writing: use of flow charts	Scope and sequence of teaching items	4.30-6.00 p.m. Team work Individual work Consultation 7.30 Faculty meeting
WEDNESDAY	G.A.Williams: Curriculum planning and teacher education	R.O.Ohuche: The rôle of teacher education in the search for curriculum relevance	Consultation	2.00 - 4.00 p.m. Individual work						4.30-6.00 p.m. Team work Consultation 7.30-9.00 p.m. Consultation
THURSDAY	E.A.Yoloye: Introduction to curriculum evaluation	G.A.Williams: Organizing orientation courses for new curricula and learning materials	Consultation	Curriculum centres	Sampling	Science programme implementation		Unit writing: methods and organization	Construction of prototype lesson units (Part I)	4.00-6.00 p.m. Individual work Team work Consultation 7.30-9.00 p.m. Consultation
FRIDAY	T.N.Postlethwaite: Evaluation at the planning stage	Special lecture A.Afolayan: Language policy	Consultation	Trial of curriculum materials	Observational techniques	Development of science curriculum materials by participants		Rôle of teacher in social studies	Construction of prototype lesson units (Part II)	4.30-6.00 p.m. Individual work Team work Consultation 7.30-9.00 p.m. Consultation
SATURDAY	Trip to Akosombo									

WEEK 4, 4 - 8 August

Day	LECTURES			SEMINARS (2.00 - 4.00 p.m.)						EVENING PROGRAMMES
	8.30 - 10.00 a.m.	10.30 - 12.00 a.m.	12.00 - 12.45 p.m.	Curriculum Planning	Evaluation	Science	Mathematics	Social Studies	Language	
MONDAY	B.S.Bloom: Evaluation at the trial stage	Sophie Bloom: Principles of learning	Consultation	Textbook production	Test construction	Development of materials	Pre-service education and material production and use (1)	Rôle of teacher	Discussion and evaluation of trial materials	4.30-6.00 p.m. Consultation Individual work 7.30-9.00 p.m. Consultation Language seminar: language policy (auditorium)
TUESDAY	E.A.Yoloye: Evaluation at implementation stage: quality control	B.S.Bloom: Mastery learning (Part I)	Consultation	Administration of curriculum centres	Test construction	Evaluation	Pre-service education and material production and use (2)	Class organisation	Complementary reading programme (1)	4.30-6.00 p.m. Consultation Individual work 7.30 p.m. Faculty meeting
WEDNESDAY	Special lecture A.D.Mengot: Education and social change	B.S.Bloom: Mastery learning (Part II)	Consultation	2.00 - 4.00 p.m. Individual work					Working excursion to Ghana Curriculum Centre; Language Centre and Institute of African Studies (Univ.of Ghana, Legon)	4.30-6.00 p.m. Team work Consultation 7.30-9.00 p.m. Consultation
THURSDAY	E.A.Yoloye: The use of experts judgement	P.Ohuarotifa: Programmed instruction (Part I)	Consultation	Mastery learning	Item analysis techniques	Testing	In-service education and material production and use (1)	Language and social studies	Complementary reading programme (2)	4.30-6.00 p.m. Team work Individual work Consultation 7.30-9.00 p.m. Consultation
FRIDAY	E.A.Yoloye: Observational techniques	P.Ohuarotifa: Programmed instruction (Part II)	Consultation	Programmed instruction	Item analysis techniques		In-service education and material production and use (2)	Rôle of materials	Printing and publishing procedure	4.30- 6.00 p.m. Individual work Team work Consultation 7.30-9.00 p.m. Consultation
SATURDAY										7.30 p.m. Film show

WEEK 5. 11 - 15 August

	LECTURES			SEMINARS (2.00 - 4.00 p.m.)						EVENING PROGRAMMES
Day	8.30 - 10.00 a.m.	10.30 - 12.00 a.m.	12.00 - 12.45 p.m.	Curriculum Planning	Evaluation	Science	Mathematics	Social Studies	Language	
MONDAY	B.S.Bloom: The use of tests and scales in curriculum evaluation	N.Dieuzeide: Educational technology in curriculum development (Part I)	Consultation	Visit to Ghana Curriculum Centre	Review of statistical techniques in data analysis (1)	Quality control	Behavioural objectives and item construction. Piaget's comments on mathematics education	Evaluation in social studies	Printing and publishing procedure - pupils work-books	4.30-6.00 p.m. Consultation Team work Individual work 7.30 p.m. Faculty meeting
TUESDAY	E.A.Yoloye: Case studies in curriculum evaluation	N.Dieuzeide: Educational technology in curriculum development (Part II)	Consultation	Discussion of individual and team papers	Review of statistical techniques in data analysis (2)	Discussion of seminar papers	Questionnaire design. Ability and attitude inventories	Evaluation	Construction of test items	4.30-6.00 p.m. Consultation Team work Individual work 7.30-9.00 p.m. Consultation
WEDNESDAY	Case study in evaluation (the Cameroon study)	B.S.Bloom: Summary presentation	Consultation	2.00 - 4.00 p.m. Individual work Team work			Evaluation in mathematics			4.30-6.00 p.m. Consultation Team work 7.30-9.00 p.m. Consultation
THURSDAY	Seminar meetings	Seminar meetings	Consultation	Individual and team papers	Review of statistical techniques in data analysis	Discussion of seminar papers	Summary report on individual projects	General discussion and evaluation of seminar	Discussion of seminar papers	4.30-6.00 p.m. Consultation 6.30 p.m. Reception by the Commissioner for Education and Culture
FRIDAY	Plans for further action at the national level (auditorium)	Closing ceremony								